

January/February 1984

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GRADUATE

THE UNIVERSITY OF TORONTO ALUMNI MAGAZINE

**DEEP SEA
GEOLOGICAL
EXCITEMENT**

**INSIDE
MAVIS GALLANT ON
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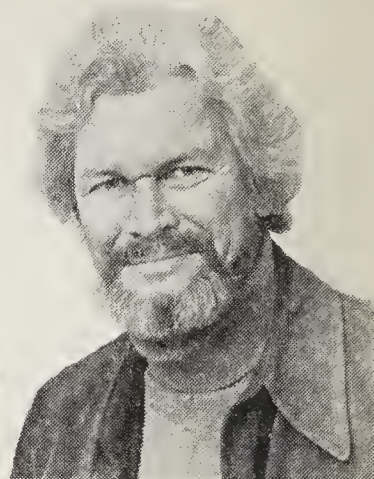
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DREAM MACHINE



IT WAS AN EXTRAVAGANCE, NO QUESTION ABOUT IT (although I can rationalize it to my own satisfaction). The discussion with my wife was brief. "Would it," I asked with blatant hypocrisy. "Would it impose a serious strain on our marriage if I bought the thing?"

"Not," she replied, with some asperity, "if you accept that it is a very expensive toy."

I held my tongue.

And bought, that afternoon, a magical computer. It is *not* an expensive toy. An expensive obsession, more like. And it devours time. Sit down after supper to develop a simple program, look at the clock and it's four in the morning.

Just a year ago I wrote in this space of my misgivings about writers and editors being seduced by technology at the expense of time better spent in reflection and the pursuit of creativity. "May anarchy and imprecision prevail a little longer," I wrote.

Magazine editors are fickle creatures, ask any writer.

In fact it was my wife who got me started when she gave me my first pocket calculator, exposing me to the seductive sense of power that comes from solving square roots in the dead of night with the touch of a single key. That was ten years ago. I have it still and cherish it. There followed a succession of calculators, wafer thin with permanent memories and percentage keys and then, on the eve of a sailing trip, a programmable calculator with which one could enter wind and tide and desired destination. The thing would then inform me what course I should steer and, barring changes in conditions, how many hours and minutes it would take to arrive. (It took twice as long and we ended nine miles south, but no matter.) A pocket computer came next, complete with manual of Japanese instructions mangled into English and there went hundreds of hours.

Then another pocket computer, expanded to 10K RAM (don't ask, don't even wonder, else you'll become embroiled as well in ROM and bits and bytes and nybbles). There went a thousand hours of my life but the excitement and aggravation were delicious. By the time I had developed a program which actually worked I had discovered enough in the process that the program's deficiencies demanded resolution and, as revisions followed revisions, programs became more sophisticated (well, *better*) and I, one time Luddite, emerged as acolyte.

That is perhaps the wrong word. I recall with glee discovering how to beat my son's computerized chess machine using my uncomputer-aided mind. Computers, like traffic cops, are logical but not reasonable.

If I attempted to play a logical game I was swiftly

mated. The computer examined each move I made and considered all of its implications for the next several moves. This done, it easily anticipated me.

But when I started to muse to myself (never out loud, I'm not sure whether computers can hear) I would think mischievously: if I could get my queen over there, and my bishop over here, I might be able to cause some damage.

The computer would consider what I was doing aimless and pay no attention, concentrating (if that is the word, and it isn't) on its own strategy, which was to go for my king in the most direct and logical fashion possible.

It simply couldn't cope with intuition or deviousness. And so I lost my fear of computers. You simply cannot put together a magazine without intuition or deviousness; I couldn't be replaced by a computer. Not *yet*.

The boffins are working on artificial intelligence, i.e. computers that can "learn" from experience and make decisions, but I think I'll be safely into retirement long before they come on line.

Meanwhile I have my own home computer which I can use as a super-smart typewriter, or as a means to explore the mysteries of programming. Writing becomes less of a chore, correspondence is actually fun. Sometimes I want to answer letters before I've finished reading them.

I shall write a whole year's supply of editorials tonight and still have time for breakfast. I'll write a book. Dozens of books. Look what Charles Dickens was able to achieve with a quill pen! Tonight an editorial; tomorrow the Robarts Library!

* * *

Articles published in *The Graduate* are often reprinted by other publications but seldom with the enthusiasm of the *Bulletin* of the Microscopical Society of Canada, which printed staff writer Pamela Cornell's "Images of the Infinitesimal" (Sept./Oct. 1983) in the November issue. An editorial comments that the article is unique in that it was written not by a scientist but by a graduate in English and philosophy. The editor adds that the article "lucidly interprets an area of microscopy that even microscopists are often hard pressed to describe."

John Aitken, Editor

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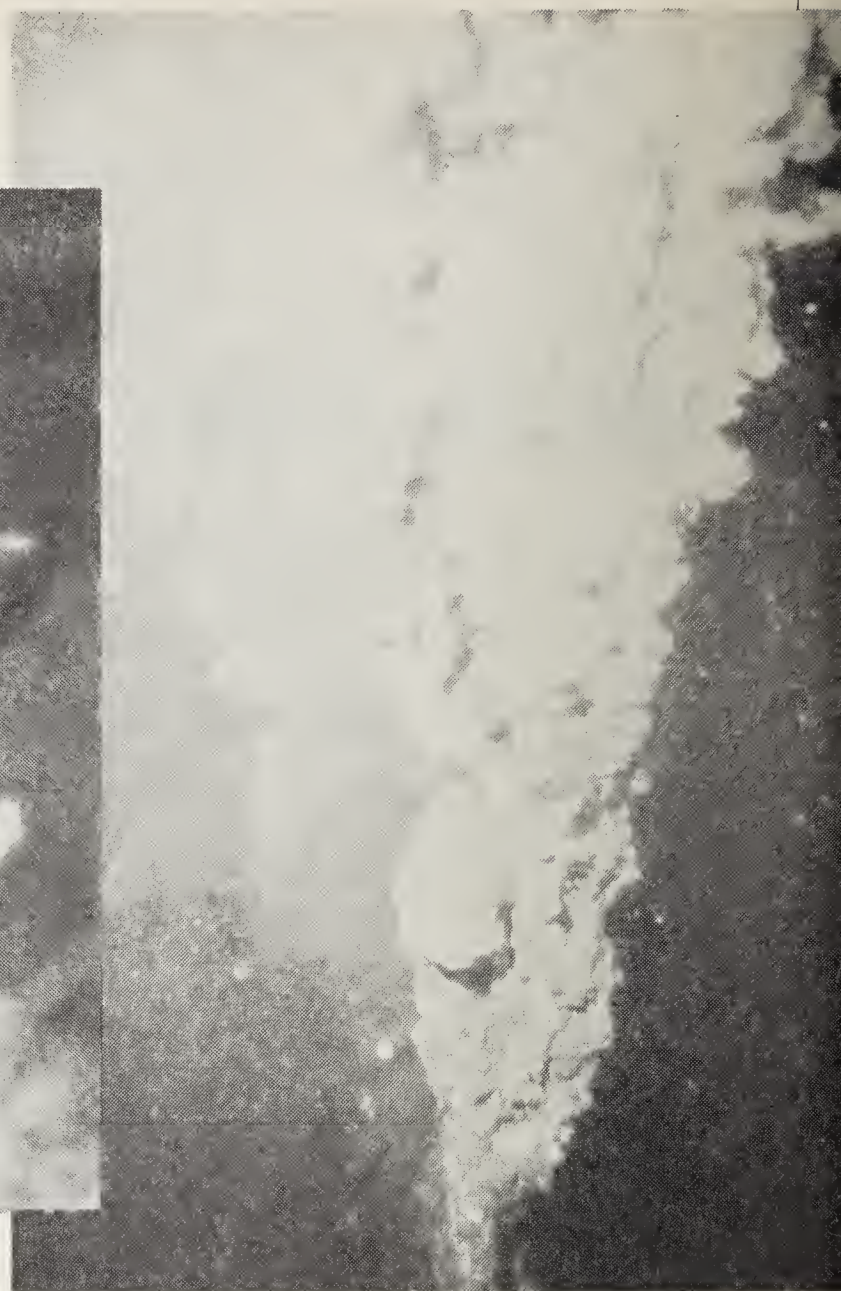
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DEEP SEA EXCITEMENT

BY LYDIA DOTTO

A VOLCANO ON THE OCEAN FLOOR SHOWS HOW MINERAL DEPOSITS FORM

ALMOST A MILE BENEATH THE OCEAN SURFACE, THE small submersible Pisces IV crossed the summit crater of an undersea volcano, its headlamps penetrating only 15 metres into the inky murk. Outside, the water was a frigid 1.5 degrees C and the pressure 160 times that on the earth's surface.

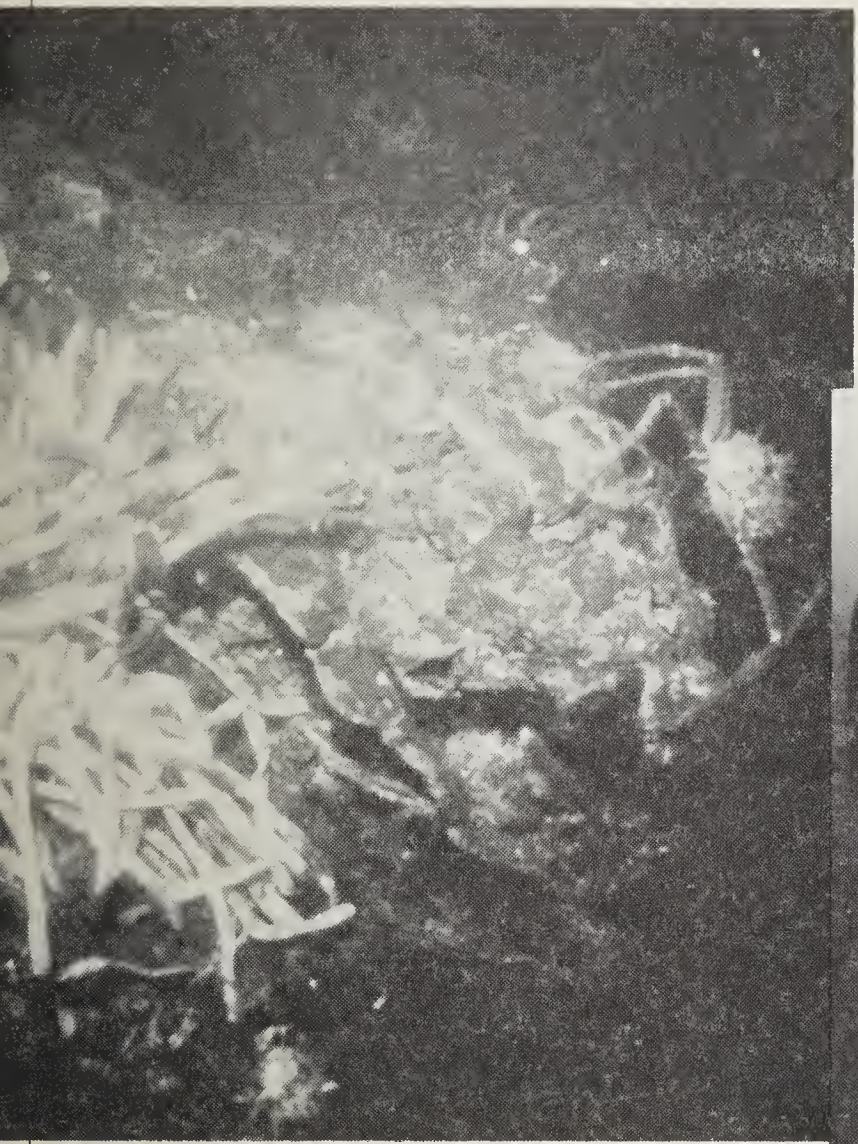
The lava plain below had a ropy, glassy appearance, characteristic of fresh volcanic rock, and the lack of a

covering of sediment indicated active volcanism within recent decades. "My strongest sensation was one of awe," recalls University of Toronto geologist Steven Scott, one of the three occupants of the craft. "There we were, on top of an underwater volcano no one had seen before."

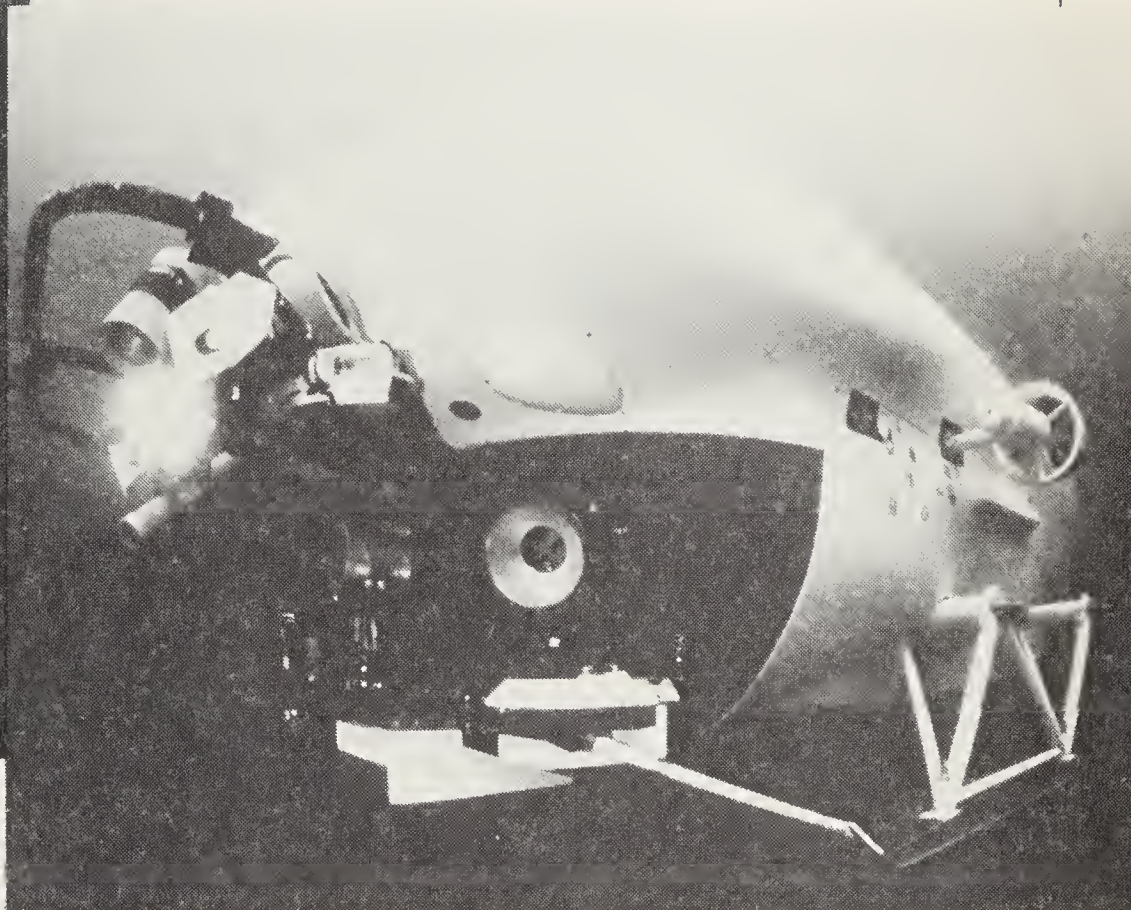
This volcano, known as a seamount, is about 60 km by 25 km; the surface crater (or caldera), over which the Pisces leisurely wandered at less than 1 km/hr, is 3 km by 7 km, about twice the size of the famous Kilauea crater in Hawaii. The volcano is active, and could have erupted at any time, but it likely would have been slow enough for them to outrun in the Pisces. Actually, Scott adds, "if a geologist could talk his pilot into it, he'd probably stop to take a sample."

But there was more. Suddenly, "it looked like the whole world had dropped away." Pisces had come to the edge of an underwater cliff and they could see nothing beyond or below. Scott initially described it as a "pot hole", but sonar readings soon revealed that there was another wall 30 metres away and the bottom was about 25 metres down. They had stumbled on a rift marking the place where two of the earth's giant geological plates, the west-moving Pacific plate and the east-moving Juan de Fuca, are slowly tearing apart at a rate of 6 cm a year. The rift is located within an area of rugged uplifted material known as the Juan de Fuca ridge, which, at this particular site, is in international waters, about 500 km off the British Columbia/

Lydia Dotto is a freelance science writer.



Left to right: tangle of tube worms bathed in warm water issuing from Taylor vent; black smoker belching from a sulphide chimney; eight-inch crabs clinging to one of the chimneys; Pisces IV, the submersible which took the scientists exploring. These pictures, those on the following page and the cover were taken by Steven Scott, Verena Tunnicliffe and their colleagues.



Washington coast.

Assured of adequate clearance, Pisces pilot Keith Shepherd took the submersible into the rift valley. Inside, Scott saw a "tangle of white strings" that looked like spaghetti. Soon, however, he realized these were exotic underwater denizens called tube worms. Scott is one of the few scientists in the world — and the only one on board the Pisces — who has seen these animals; in 1982, he was aboard the U.S. submersible Alvin with a team of American scientists studying vents in the Gulf of California. But these creatures confused him at first because they were smaller than those he'd seen before. Recognition dawned when he saw the animals' gills, resembling brilliant red feather dusters, waving in the water and watched as one pulled itself into its protective tube.

The discovery triggered much excitement inside Pisces because the tube worms were the clue that deep sea vents (underwater hot springs) were nearby; the animals cling to the rocks near the vents, which sustain them with warmth and a source of food in the otherwise inhospitable depths. They soon observed a shimmering in the water which indicated the presence of warm, rising water. They had found the bonanza they sought.

Scientific interest in the vents has exploded since they were first discovered less than half a dozen years ago. They have yielded an unexpected profusion of exotic and unique life forms and an amazing new ecological environment for biologists to study. Scott, an ore deposit geologist, and his colleagues are excited about the vents

for two reasons: they provide valuable insights into geological processes that formed ore deposits now existing on land, and they may become important sources of valuable metals in the future.

Thus, finding a vent was the major goal of the expedition — one that was destined to be fulfilled beyond expectation.

Pisces sailed down the rift valley, searching for more vents, with the strains of Beethoven and Nana Mouskouri wafting from its tape deck. Scott, who had to fold his lanky six-foot-four frame into the cramped quarters of the tiny submersible cockpit which he shared with two others, had little room to manoeuvre. At one point, raising his camera to take a picture through the inch-thick plexiglas window, he caught the strap in a control lever and set the submersible circling in reverse.

During one dive, the scientists made observations with Pisces wedged into a V-shaped crevice, with the submersible's back against the rift wall, its skids poised on an outcropping and its mechanical claw clutching a colony of tube worms as though hanging onto a head of hair.

In all, the team made eight dives in August, averaging about nine hours each, the longest a record-setting 11 hours. They discovered that the rift was some 300 metres long and contained three vents, which were named Chambers, Shepherd and Taylor after the three Pisces pilots. As Scott observes, scientists get credit through their publications, but the pilots, who are crucial

to the success of the dives, are often unsung.

Fed by the heat of the volcano below, these hot springs support thriving biological communities of bacteria, worms, snails and giant crabs. Expedition leader Verena Tunnicliffe, a University of Victoria biologist, said that more than a dozen previously unknown species were found. Remarkably, these animals survive amid high concentrations of hydrogen sulphide dissolved in the water. Hydrogen sulphide, more commonly encountered on land as the gas with the "rotten egg" smell, is extremely poisonous but the animals at the vents are able to use it as a source of energy for making food. It is still something of a mystery how most of the creatures around the vents avoid being poisoned.

These were among the most northerly vents to be discovered and the first to be found on a seamount located directly on top of an active plate spreading zone. In retrospect, Scott realized that it would have been easy to miss the vents, had they crossed the rift just 25 metres further south.

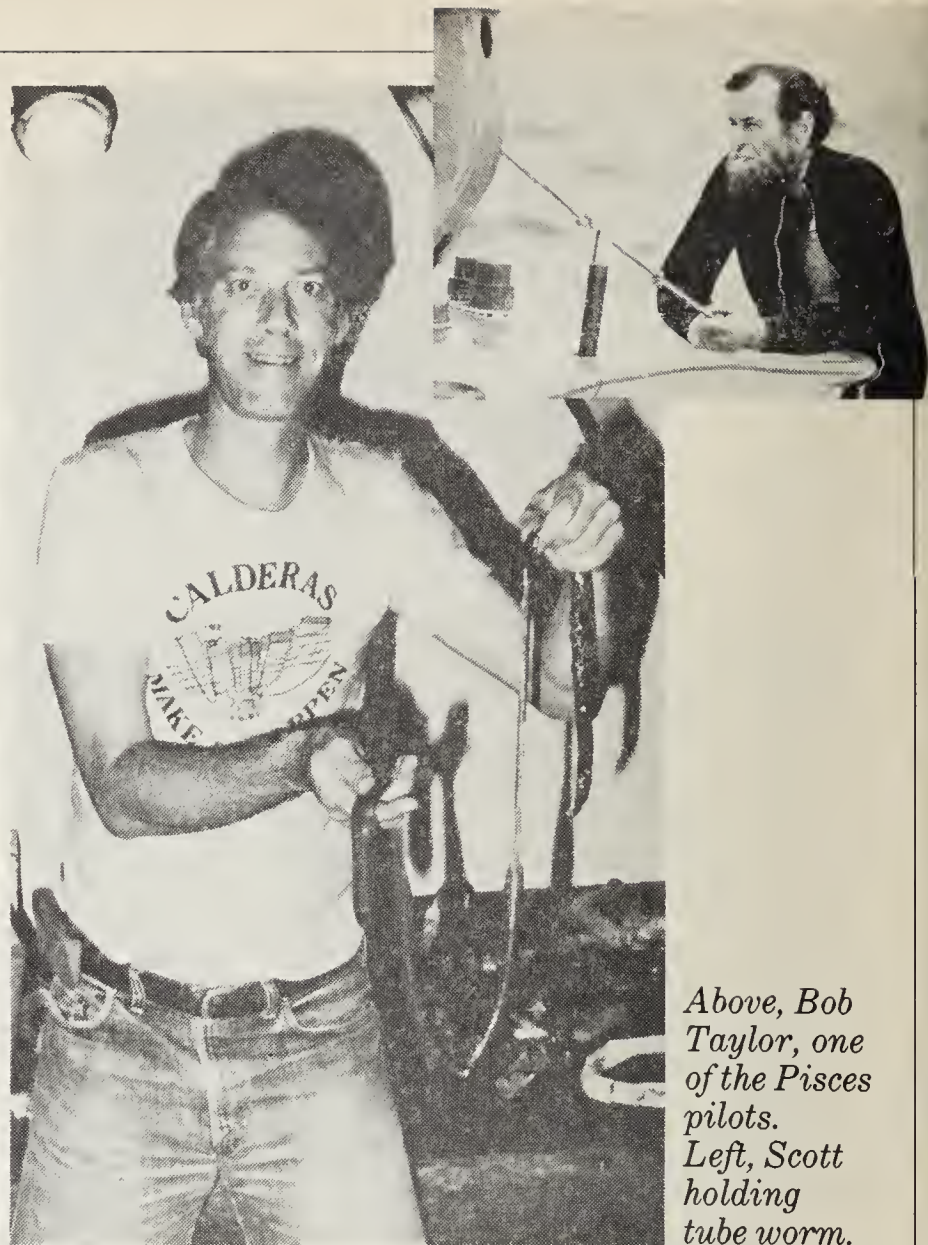
The project, called CASM (Canadian-American Seamount) Expedition was organized by Tunnicliffe and University of British Columbia geologist R.L. Chase, and included oceanographers from the Institute for Ocean Sciences in B.C., the University of Washington and University of California (Santa Barbara). It was supported by two departments of the Canadian government, Fisheries and Oceans, which provided the Pisces and the mother ship, Pandora, and Energy, Mines and Resources. (It costs about \$13,500 a day to run Pisces, including pilot salaries, mother ship and other support facilities.)

Scientists believe that at the vents cold sea water percolates down through cracks and fissures in fractured rock and is heated by magma (molten lava) to high temperatures. Chemical reactions occur between the rocks and the hot water and as a result three things happen: sulphates that exist in normal sea water are turned into hydrogen sulphide; metals are leached from the rocks into the water; and the heated water becomes acidic.

Then this hot, metal-rich, acidic water is driven upward through the cracks in the rocks until it discharges through vents on the ocean floor. There it encounters cold, alkaline, metal-poor sea water and rapid, turbulent mixing occurs. This causes the hydrogen sulphide and the metal sulphides to "rain out" in a plume that resembles black smoke (hence such vents are called "black smokers"). However, not all the sulphides are carried away; some fall out around the vent site, eventually building up dark chimneys.

Unlike vents found further south, which have water temperatures as high as 350 degrees C (hot enough to melt lead), the vents found on the Juan de Fuca ridge have temperatures of only about 35 degrees C. This means there are no black smokers at the site. (The hotter the water, the more metals it contains and the volume of metals in the water determines whether a black smoker will be created.)

Scott isn't sure why the water temperature is so low at the Juan de Fuca site — "it has something to do with the plumbing system but we don't fully understand it" — but speculates that cold sea water may be filtering



Above, Bob Taylor, one of the Pisces pilots. Left, Scott holding tube worm.

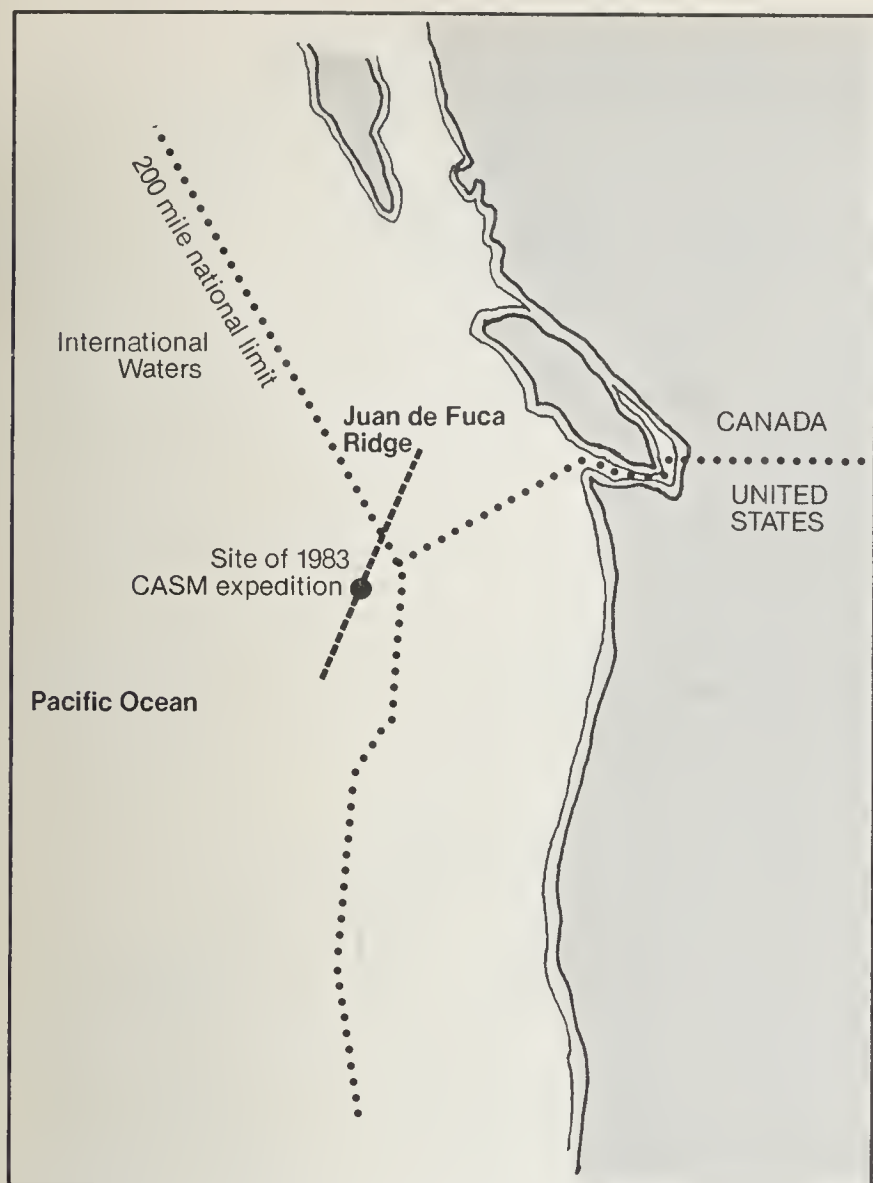
down into the vents, cooling the water before it emerges at the sea floor.

However, about 40 metres to one side of the rift, chimneys which must have been formed in much the same way as black smoker chimneys at other sites were found but without an "apron" of collapsed sulphides at their bases. Scott thinks they may have been formed inside a rift subsequently covered after a volcanic eruption; thus there may be sulphide deposits beneath the lava bed.

Only one of these chimneys was still venting warm water, so they appear to be associated with a decaying vent system. In contrast, the active vents in the existing rift appear to be very new, with small chimney mounds and little build-up of precipitated material or rubble around their bases. Thus, "you have new and old side by side. I think this is unique," Scott says. "This is an opportunity to study the effect of time" on a vent system.

During one dive, the team was able to turn a technical setback to advantage. When a thruster failed, Pisces could only turn in circles, so the battery power that would have been used to power the thrusters for exploration was used instead to pump ballast in order to lift one of the chimneys to the surface. The submersible was able to topple the chimney and, using the grabber arm to clasp it, slowly hauled it up. About one metre long and 50 cm across the base, it is one of the largest geological samples ever to be raised from the sea floor and scientists from all over the world have been asking for pieces of it.

The sulphides built up at the vents contain metals such



as zinc, copper, iron, manganese and silver. Scientists believe that many valuable ore deposits now on land were formed long ago in deep water the same way. Thus, the vents are, in effect, a window on the past, a chance to observe the forces that create ore deposits.

Studying land-based ancient deposits is difficult because "subsequent geological events obscure a lot of the original features. We're not quite sure what we're looking at," Scott explains. "By going to the sea floor, we can actually watch and monitor the processes." And studies of the chemical changes going on in the rocks around the vents may help scientists find new ore deposits on land.

He predicts deep sea mining at vent sites in the future, although much basic research and analysis of the ore content of the sites remains to be done. Most of the seven vent sites discovered so far are small and only one, near the Galapagos Islands, appears potentially mineable.

Scott and two U of T colleagues, Stephen Hollingshead and Adrian Crawford of the Department of Civil Engineering, have begun a study of the mechanical properties of the sea floor sulphides — information needed by companies that are already starting to develop deep ocean mining tools.

Biologists are equally excited about the scientific potential of vents, particularly since each site seems to harbour unique animal species. The creatures found at the Juan de Fuca vents include not only tube worms but "palm" worms, three species of snails, clams, crabs more than half a metre across, small shrimp-like animals and a single-celled micro-organism that still doesn't have a name.

The most important denizens of this habitat are the bacteria, on whose cleverness in utilizing hydrogen sulphide the rest of the colony depends. These bacteria, which form the basis of the food chain around the vents, combine oxygen and hydrogen sulphide to create energy, which is then used to convert carbon dioxide into food. This process, known as "chemosynthesis", substitutes for photosynthesis in the sunless ocean depths.

Clumps of free-floating bacteria are so thick around the vents that they give the water a milky appearance. Palm worms feed on these creatures, catching them on the fly as they settle onto the sea floor. In Tunnicliffe's words, "they're picking up the garbage."

Tube worms have live-in help — symbiotic bacteria contained within their own cells although the worm has to deliver the raw materials (hydrogen sulphide, oxygen and carbon dioxide) to the bacteria. The gill is bright red because it contains a large amount of hemoglobin, needed to scavenge oxygen efficiently from the oxygen-poor sea water. This gill is the conduit for everything entering or leaving the animal, which has no mouth, gut or anus. One of its fascinations is the way in which it arranges delivery of hydrogen sulphide, normally highly poisonous to multi-celled animals, to the bacteria within its cells without poisoning itself. Deciphering the details of the complex metabolism of these creatures is one of the major scientific questions challenging biologists studying the deep sea vents.

Scott says they're going to get plenty of opportunity over the next two years. Plans are already afoot for several expeditions to the Juan de Fuca ridge by teams of American and French scientists. Scott, Chase and Tim Barrett, university research fellow in the geology department, recently received a grant for \$369,000 over three years from the Natural Sciences and Engineering Research Council to continue their research and mount further expeditions to the Juan de Fuca ridge; Scott will be chief scientist on a Pisces dive in August.

Canada and the United States have not resolved the international boundary off the West Coast, according to William Hutchinson, assistant deputy minister for earth sciences in the Department of Energy, Mines and Resources. However, there is an extended fishing zone boundary that runs southwest from Juan de Fuca Strait and "we're assuming this would be the position both would take for the resolution of the sea bed rights."

Recently, Canada earmarked \$250,000 to participate in the planning of an international ocean drilling program with the United States, Britain, France, Japan and West Germany. The project involves using a drill ship to probe for oil and minerals as much as 4.5 km beneath the ocean floor in several sites around the world, including an area off Vancouver Island.

Scott expresses concern about the lack of Canadian expertise in a scientific field which has exploded worldwide since 1979. If Canada is going to claim deep sea sites, "we have to occupy them and make use of them." He has begun taking on graduate students who want to work in this new field, including one from Australia whose work is being supported by a mining company. "This is an area of national concern and there are so few people in this country who can do this kind of work. I'm still the only ore deposit geologist who's seen a black smoker." ■

MAVIS GALLANT, ON GOING IT ALONE

BY JUDITH KNELMAN

OUR WRITER-IN-RESIDENCE GAVE HERSELF
TWO YEARS TO MAKE IT AS A WRITER IN
PARIS. THAT WAS 33 YEARS AGO.

TO MAVIS GALLANT, AN INTERNATIONALLY RECOGNIZED writer of fiction who has been away from Canada for 33 years, the seven months she will spend as writer-in-residence at the University of Toronto are something of an adventure. She is obviously enjoying a city she never really knew and discovering and rediscovering the distinctiveness of North American life.

When she left Montreal for Paris in 1950, life was very much simpler — and so was she. Social insurance numbers and plastic credit cards were yet to come, and at least among her colleagues on the weekly *Standard*, which paid her about \$50 a week in cash, bank accounts were unusual. Her rent, she recalls, was \$40 a month.

In her living room in those days was a picnic hamper full of short stories. She had great fun writing features for the *Standard* from the time she was 21 until she was 27, but what she really wanted to do was to write fiction. So she let the handwritten stories pile up, never showing them to anyone.

She decided that 1950 was a nice, round number — a good year for a watershed. “I thought the middle of the century was a barrier year.” Despite her fortunate position at the *Standard*, where women had been sacked to make room for men who had come back from the war, she announced that she was going to live in Europe and write stories for a living. She understands now why people thought she was daft. “I’d never laid eyes on Europe,” she says. “It would be as if someone today told me he was going to Tibet to write. I’d say good luck, but I’d be hoping he had a return ticket.”

When someone at the *Standard* twitted her about being an unpublished author, she thought maybe he had a point. She dug into the basket, picked out a story, typed it and sent it off to *The New Yorker*. It wouldn’t do, *The New Yorker* said — but did she have anything else to show them? She sent a second story, “Madeleine’s Birthday”, which was promptly accepted.

“It was like a dream,” Gallant recalls. “I used to wake up at night and read the letter of acceptance in case I had dreamt it.”

She underlined the reality of the experience by showing the letter around at the office. Then she went to New York and had lunch with the man who was to be her editor, William Maxwell, one of the best American writers living at the time. (She had read three of his novels but didn’t make the connection until much later, with the aid of Janet Flanner, Paris correspondent for *The New Yorker*.) Maxwell phoned the business office to see if he could intercept her cheque, but it had already been mailed out. “It was for six, was it?” she heard him ask. She thought that might mean \$60.

The cheque was for \$600. Such a figure had never entered her head: it would be like receiving \$6,000 now, she says. She thought twice about cashing the cheque with the familiar top-hatted Eustace Tilley on it. Before she did, she passed it around at the *Standard*, earning the undying hatred of some of them, she later realized, though she was too naive to think of that at the time. Then she went to Birks and bought a red alligator bag with gold trim without asking the price — it was \$75. She lent some of the rest of the \$600 to a friend who was having income tax problems.

She sold the story *The New Yorker* had rejected, “The Flowers of Spring”, to a little magazine that was published out of Montreal, the *Northern Review*, for \$25, which she now realizes must have come out of the editor’s own pocket.

“I went off to Europe with a gorgeous handbag and a typewriter and no money,” she says with a laugh. She gave herself two years, but she hoped desperately that she wouldn’t have to come back. One of the men on the paper had told her that she would be sure to return with her tail between her legs, begging for work. “That was quite an incentive.”

The bilingual Gallant set herself up in Paris, where she has remained ever since, and continued to produce short

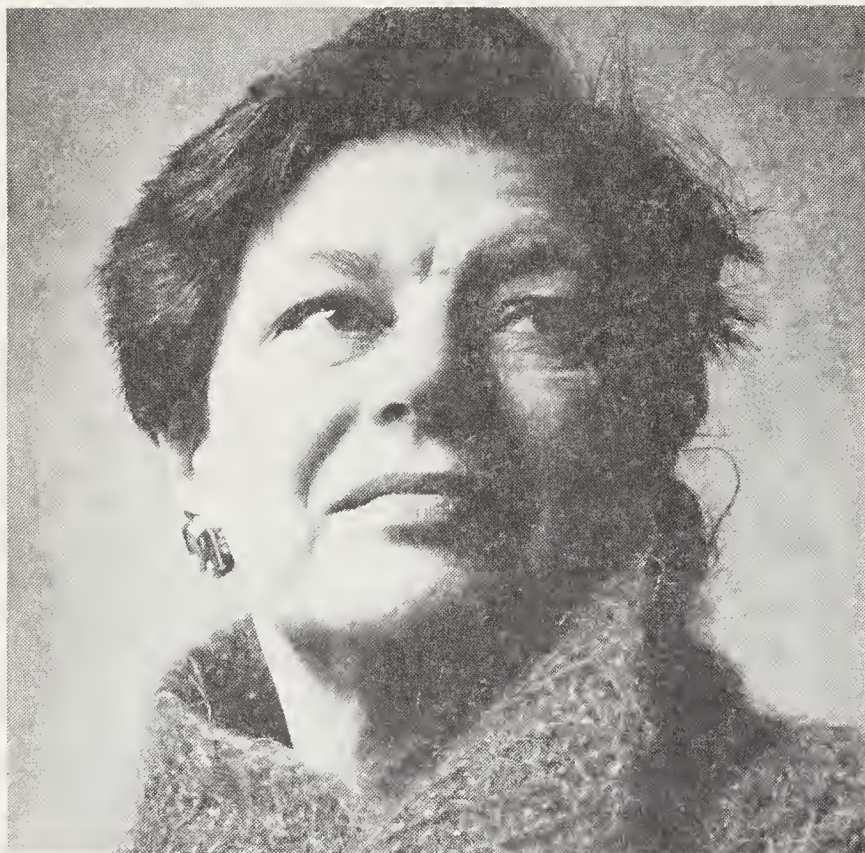
This article is reprinted from the U of T Bulletin.



PHOTOGRAPH BY JOHN MASTROMONACO

"I have no social security, no protection. When the people I know here are all pensioned off, I'll still be working."

"It would be criminal to let students think that it's easy. I should imagine that even to write rubbish is difficult."



stories for *The New Yorker*, which soon offered her a first reading contract. She has established a pleasant, productive routine there, working alone through the day on her writing and dining and sometimes socializing late in the evening. "Sometimes I have to be dragged by the hair," she says, "but I always have a good time when I get where I'm going." She reads less than she used to but pays a great deal of attention to what goes on around her, imbibing every detail. She does not like to feel hemmed in, which explains why she exchanged her secure and comfortable situation in Montreal for a precarious existence in the austere and unsettled atmosphere of post-war Europe.

Since she chose to go it alone outside her own country, she has consistently pushed back boundaries. For some years there was a debate in Canadian literary circles as to whether a person who lives and works in Europe and publishes primarily in an American magazine should be considered a Canadian writer. That question was settled in 1981 by her investiture as an Officer of the Order of Canada in recognition of her contribution to literature and her receipt of the Governor-General's medal for fiction for *Home Truths* (published by Macmillan in 1981).

Though her everyday business is conducted in French, her writing is always done in English. Her biggest success has been with the short story, but she likes to try different forms like the novel, drama, satire, parody and non-fiction, and for some years she has been working on a major study of the Dreyfus case and its impact on

French society. She uses a great variety of themes and settings, and many of her stories are told from the point of view of a man. "If I couldn't do that by now," she says, "I might as well jump into the Seine with all my books around my neck." If she did, she'd be carrying eight hard covers and two soft: six collections of short stories (*The Other Paris*, *My Heart Is Broken*, *From the Fifteenth District*, *The Pegnitz Junction*, *The End of the World* and *Home Truths*) and two novels recently reprinted in paper (*Green Water*, *Green Sky* and *A Fairly Good Time*).

The idea of coming to the University of Toronto this year appealed to her because it is on a large campus in the midst of an attractive, vital, creative city that is quite different from the one that existed when she lived in Canada. She likes to admire the beauty and feel the activity as she walks around exploring. "I don't like small places," she says, "where there's one theatre and one cinema. Even if I don't go, I like to look at the paper and see what's on." There are pleasures to be had here that she'd forgotten about, like shopping in a department store by telephone and eating breakfasts so hearty that lunch isn't necessary, and amusing perplexities like the numerous Toronto Transit Commission signs that announce that the exact fare must be dropped into the ticket box but neglect to mention the amount.

This year, for the first time, she will be talking to students about their work, giving them her general impression and offering encouragement where she can. She likes to have plenty of time to read over what they bring in and think about what she is going to say, so she asks people to drop off their writing and let her make the appointment when she feels she is ready to see them. "I'm not an editor buying work," she says, "or an agent. I couldn't just write a comment on something — like 'use fewer adverbs' — and mail it back." She regards it as a fragile situation, and as one who never entrusted her work to someone else to judge she appreciates the confidence placed in her by those who consult her. "How can you feel anything but that they're touching?" she asks.

In addition to seeing students (and anyone else in the University community who wants advice on creative writing) she is giving readings and continuing her own writing. As well as working on fiction, Gallant intends to complete her book on the Dreyfus affair while she's here. "This must be the thirty thousandth interview in which I've said I'm finishing it, but I am absolutely not taking it across the Atlantic again."

Though she likes Canada and comes back regularly to visit, she has no intention of leaving Paris permanently. "I have no social security, no protection," she says cheerfully. "When the people I know here are all pensioned off, I'll still be working."

It is a very satisfying life, not in the least lonely. "It's very different to write for a living," she says. "Nobody just sits down and says that's it for the day." To get a good short story, a writer must be prepared to hone down the material until it is perhaps one-quarter of the original length. Self-indulgence, she says, is the mark of a second-rate writer. And good writing must be sure-footed, so that there is no slipping and sliding. "It would be criminal," she cautions, "to let students think that it's easy. I should imagine that even to write rubbish is difficult." ■

THREE READERS WHO NEED ANECDOTES, PHOTOGRAPHS

The academic year 1984-85 marks the centenary of women's admission to the University of Toronto. To celebrate this occasion, a booklet on the history of women's efforts to be admitted to the University, including biographical information on some of our "firsts", is being prepared.

Any relevant information or photographs that readers may be able to offer or lend to the project would be welcomed. Please send to me at the address given below.

Many thanks.

Anne Rochon Ford
Women's Studies
2030 New College
University of Toronto
Toronto, M5S 1A1

I am a master's student in history at the Ontario Institute for Studies in Education and am doing research for my thesis on the impact of the Second World War on women at the University of Toronto.

I would like to get in touch with women who attended U of T in the period 1935 to 1950. It would be appreciated if readers of *The Graduate* who could help would write to me giving, as well as name and address to which a questionnaire could be sent, their years at U of T, faculty, college and course.

Thank you for your consideration.

Nancy Kiefer
Box 56
321 Bloor Street West
Toronto, M5S 1S5

I am writing you in the hope that some readers will share any memories they have of Professor Gordon Ross Edwards from the University of Toronto's School of Architecture. Professor Edwards died in Toronto in 1950 after 25 years of association with the university. My interest in him is motivated by having acquired his World War I war medal. All letters will be gratefully acknowledged.

David K. Dorward
24 Alcina Ave.
Toronto, M6G 2E8

Letters may be edited to fit available space and should be addressed: Graduate Letters, Department of Information Services, University of Toronto, Toronto, M5S 1A1.

In the article on T-Holders in the September/October issue of *The Graduate*, you stated that figures for international participation by Varsity's female athletes are still incomplete. My awards of junior and senior T's date back so far (1932 and 1933) that I feel perhaps your researcher should be made aware of them.

My senior T was in recognition of my having been on the Canadian swimming teams for the 1932 Olympic Games and the 1930 and 1934 British Empire (now Commonwealth) Games.

Will you kindly see that this information reaches the person responsible for the women's records? Thank you.

Elizabeth A. Edwards Tancock
Toronto

With reference to the article "Problem-Solving as an Art Form" by associate professor of mathematics Ed Barbeau in the November/December issue of *The Graduate*, I would like to comment on "An Open-ended Problem".

It should be pointed out that, since we are asked to give the size of the angle as it is drawn on a plane surface, the length of the diagonals concerned in making up the suggested triangle, as well as the size of the contained angle, will vary according to the perspective at which the cube happens to be drawn. The angle on the paper will not necessarily therefore always measure the same.

If it is intended that we determine the measure of the vertex angle formed by a triangle which slices through the physical cube, so to speak, this is another matter and the answer would be 60 degrees.

Albert W.J. Harper
London, Ontario

In the November/December issue, Karl D. Jaffary wrote accusing *The Graduate* of "stooping to shoddy journalism" in the article "The Art of Giving" (May/June) concerning the Loeb's gift to the University, because the article did not deal with the concerns of the area residents concerning the proposed use of the Loeb home for housing the art collection.

I found it surprising that Mr. Jaffary did not make clear his professional involvement, in that he is a lawyer who has represented the Moore Park Ratepayers Association in this matter.

D.G. Ivey
Vice-President —
Institutional Relations



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Thank you for publishing my father's notes re Banting and Best in the May/June issue. You have many faithful readers in the Whitby-Brooklin area, judging from the number of comments made to me.

Professor Michael Bliss, in his letter, (November/December) takes umbrage. Both he in his letter, and *The Graduate* in its caption in the May/June issue, include my letter in the condemnation of his research as "scandalous nonsense" made in the letter printed above mine. I think this is unfair and wrong. The doctor from Florida certainly was critical of Professor Bliss' efforts. My father, Dr. Noble Sharpe, wrote, years before, a record of the past, with no idea that anyone would re-open the controversy. He did not live even to hear of Professor Bliss' book. Whether his view of the events is valid or not in the light of this recent investigation is immaterial. I sent his notes to you as being of interest in that he "was there", an eye witness, and I think this is what the people who read them in *The Graduate* found intriguing. His views, indeed, were just the kind of thing Professor Bliss investigated.

I take issue also with the professor's criticism that I had not read his book. That, too, I consider immaterial. Even if I had (and I now have) I would still have submitted the notes. I purposely avoided comment (feeling inadequate to do so, for one thing). I wished the notes to speak for themselves.

As Professor Bliss knows now, I found his book fascinating, a *tour de force* of detailed, unbiased, even exciting research. My great regret is that my father and he did not meet. Would they not have had great conversations on this and who knows what other subjects?

Sheila Goode

Brooklin, Ont.

The device of grouping letters pertaining to the same subject under an "umbrella" heading is common practice but can lead to inadvertent embarrassment. The heading properly referred to the first letter only. We would like to think that readers found Mrs. Goode's letter with her father's notes intriguing and complementary rather than critical.

Editor

GEORGE DONER FUND TO AID LAW STUDENTS

Friends and colleagues of the late George Doner (Vic 4T6) have established a fund in his name, to provide a scholarship to the student graduating from Victoria College with the highest academic standing who has been admitted to the Faculty of Law.

The fund is being sponsored by the Associates of the University of Toronto, Inc. in New York City. Doner, active as an undergraduate at Victoria, maintained a keen interest in the affairs of the college as an alumnus and served on the executive of the Associates for many years.

Claus Motulsky, a lawyer who was a friend and business associate of Doner, has undertaken administration of the fund and anyone interested in contributing should write to him at Lane and Mittendorf, 26 Broadway Ave., New York, N.Y. 10004.

GOVERNING COUNCIL CALL FOR NOMINATIONS

JOSEPH POTTS, CHAIRMAN OF THE College of Electors, has issued a call for nominations for three alumni governors on the University's Governing Council, to serve from July 1, 1984 to June 30, 1987. The terms of Burton A. Avery, Engineering, 1946, Elizabeth H. Pearce, Victoria, 1957, and R. Gordon Romans, Graduate Studies, 1942, expire on June 30. All are eligible for re-election.

Governing Council, created by provincial statute in 1972, delegated the authority for the election of the eight alumni governors and the Chancellor to the College of Electors. The college is composed of approximately 50 members

representing 29 alumni associations. Nominations are sought and, on the basis of written statements from the candidates and interviews with each of them, the college elects the new alumni governors.

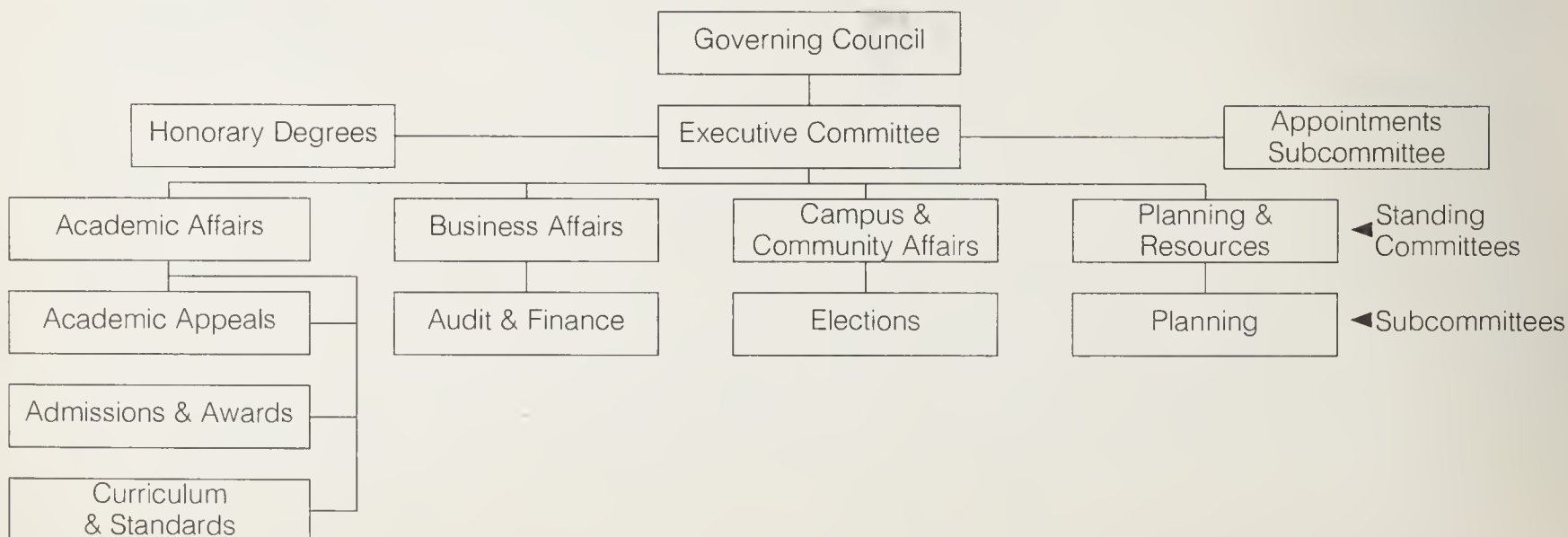
Governing Council has established four standing committees and a number of subcommittees. The resulting structure is displayed on the chart below. Members are expected to sit on two standing committees, one subcommittee and, of course, Governing Council. Meetings are held monthly.

Besides having the time available to fulfil these duties, a candidate must be an

alumnus/alumna of the University of Toronto, a Canadian citizen and not a member of the staff or a student in the University.

The deadline for receipt of nomination forms is 4:00 p.m. on Tuesday, February 28, 1984. Candidates will be invited to meet with the College of Electors on April 2.

Further information and nomination forms may be obtained from Susan Girard, Secretary, College of Electors, Room 106, Simcoe Hall, University of Toronto, Toronto, M5S 1A1; telephone (416) 978-6576. All nominations will be held in confidence.



WOODSWORTH AT TEN

BY ARTHUR KRUGER AND PETER SILCOX

THE COLLEGE'S DEVELOPMENT
IS A SERIES OF PARADOXES



IT IS RARE IN CANADA FOR A PUBLIC INSTITUTION TO BE named for a socialist pioneer, but then, Woodsworth College is an unusual division to be found in a university often characterized as traditional and conservative. But the creation of the college, together with a whole series of policy changes made in the mid-1970s showed an understanding by the University of Toronto of the role that part-time studies were to play in the future. The acceptance of the student who combines work with study as a full member of the university community was a change in the University comparable with the admission of women one hundred years ago.

Woodsworth's development is a series of paradoxes. It is the newest college at U of T, yet has alumni that go

J.S. Woodsworth, for whom "College X" was named, was a founder and first leader of the C.C.F., precursor of the NDP. He was cited for his interest in "broadening the educational opportunities for those who did not have a chance to obtain their education at the usual stage."

back 90 years. Woodsworth has the largest student body of any of the colleges but the smallest physical plant. It offers more courses than all the other St. George campus colleges combined. Indeed, its course offerings and enrolments exceed those of many universities in this country. Yet apart from the principal, it has no academic staff whose first loyalty is to Woodsworth. Its programs cannot be offered except through the goodwill of the various faculties and departments of the University. It is said that when budgets are tight as they are now, goodwill is a scarce commodity. Yet Woodsworth flourishes.

Before Woodsworth opened its doors, there was a long period of study and debate, sometimes bitter, in the University. There was the usual blizzard of paper which predates any substantial change in policy. The future of part-time studies seemed likely to have as long a run as the "college problem" as a source of committee mandates, but as the Russell Committee followed the Colman Committee report, the sleeping giant of the University

THE FIRST PRINCIPAL WORKED OUT OF HIS BRIEFCASE

had been aroused. In 1973, Provost Donald Forster led yet another committee through the tasks of finding a name for College X, and selecting Professor Arthur Kruger as the first principal.

If the late Donald Forster might fairly be regarded as the midwife who presided over the birth of Woodsworth, the largest role in its conception belonged to the students themselves. If the college has a founder, it is APUS (Association of Part-time Undergraduate Students) and the dedicated band who led it: Norma Grindal, Arlene Dick, Joyce Denyer, Kurt Loeb, Pat Wilson and others. It is interesting to note, in retrospect, how many of those who campaigned to improve opportunities for part-time students were women. Nothing could have been more appropriate, since the part-time student body has always been overwhelmingly female.

When Woodsworth opened its doors, it inherited the most varied evening and summer degree programs in the country. In addition to offerings in arts and science, there were part-time programs in professional faculties. The pre-university courses, which allowed non-matriculants to qualify for admission to University programs while studying within its precincts, offered a unique approach to making the University accessible to working people. The diploma and certificate programs provided the opportunity for the city's residents to upgrade their qualifications in a number of professional areas.

These remarkable achievements had been made by a relatively small staff, working in cramped quarters with a budget that was only a small fraction of the income generated by Extension for the University. While the division had friends in many parts of the University, and faculty devoted to its work, there were others who were willing to tolerate Extension only so long as it made money that could be used for what they regarded as the legitimate activities of the University.

The seemingly endless debate over the future of part-time studies, and constant criticism of Extension's work, had made the staff apprehensive about the future. Even when the decision to create the college had been made, many practical details had to be settled. For the first couple of months the new principal was an itinerant leader, working out of his briefcase, using any desk or phone he could borrow. The staff of Extension, including those now with the School of Continuing Studies (where the non-credit work of Extension was housed), filled the small aged building to overflowing. The University did not rush forward with funds to succour its new progeny because the financial tide had already turned, and the long period of financial stringency was beginning.

Arthur Kruger's first task as principal was to

reorganize the staff for its new role. Most took on more onerous assignments. They were delighted by the challenge and responded magnificently. He had a good knowledge of the University from his years as undergraduate secretary and then associate chairman in the Department of Political Economy. Since a significant part of the expansion in the course offerings in Extension had involved that department, he was in touch with developments in part-time studies. He had negotiated course offerings with Alex Waugh and Bill Bateman for many years, and appreciated their understanding of the field. Involvement with Professor John Crispo in the development of the certificate program in personnel and industrial relations, and teaching and co-ordinating the business certificate program, had made him aware of that important segment of the college operations. It had also brought him the friendship of Peggy Pratt, the first secretary of the college, and a tireless worker on behalf of part-time students.

Once the battle for the creation of the college was won, its students and senior officers quickly developed a close and friendly working relationship, which has been a source of strength throughout its first decade. The first joint enterprise was a constitution. Then a college





students' association was founded, separate from APUS but working closely with it. Staff and students settled down to plan a range of extra-curricular programs. Discussions in the college council were spirited for there was much to be done but they were seldom acrimonious.

The college began to reach out to private and public employers, to make them aware of what it had to offer to their employees. Staff members took to the road. To assist them, the college hired an advertising agency to improve its brochures and media advertising. Principal Kruger set out to get publicity for the college by contacting the press and appearing on radio and television. The University's commitment to improving accessibility to its programs needed to be known by those who might benefit from the new opportunities. Surprisingly the new initiatives were not always welcomed. Carole McMahon and Carol McKay discovered that some employers were not at all eager to have their stenographers and clerks enrol in courses, fearing this would raise their aspirations and encourage them to seek new positions. The principal called on the top men in business and government to give substance to their public statements of support for the expansion of opportunities, particularly for their female staff. The college, too, took a positive step

forward, by offering courses off campus, close to major centres of employment. Business organizations and public institutions helped by lending boardrooms and meeting rooms free of charge.

It was through Woodsworth that the Faculty of Arts and Science made its courses available to senior citizens free of charge. Much of the credit for the success of this initiative belongs to Professor Mary Laurence, then assistant principal. She was followed by George Altmeyer and David Nimmo who expanded this program. Today there are more than 200 seniors who form one of the most active sectors of the college community.

There were failures and frustrations too. New registration procedures in the fall of 1974 led to near disaster. Students stood in line for hours, waiting to register. They were understandably upset, and the unfortunate staff, struggling with an unworkable system, bore the brunt of student outrage. The media were on hand, and the resulting coverage was far from flattering. The criticism was deserved and led to a rapid reappraisal and Woodsworth led the Faculty of Arts and Science in computerizing student records and registration.

The most important change in the early years was full integration of evening and day classes in arts and science. Prior to the creation of Woodsworth, Extension had begun to make joint academic appointments with departments in the faculty, so that evening courses were given by faculty members as part of their normal load. Principal Kruger negotiated a new arrangement with Dean Robert Greene, under which departments undertook to staff evening courses in return for a block payment which was distributed to departments as part of their budgets. At the same time, all evening and day classes were opened on equal terms to both full-time and part-time students. In consequence, many full-time students began to enrol in evening courses, and part-time students who wished to attend in the day could do so. These arrangements have stood the test of time. This fundamental change in the approach to evening classes has worked smoothly thanks to the constructive and flexible attitude of departments and their chairmen.

Half way through his term, Principal Kruger was asked to take on the position of dean of the Faculty of Arts and Science. He left Woodsworth with great reluctance, since he had enjoyed the challenge of helping to create a new college with an enterprising and dedicated staff. Peter Silcox, the new principal, was already known to members of the college. For many years he had been one of Peggy Pratt's stable of instructors in the certificate programs, and the year before his appointment in July 1977, had been chairman of the college council. What is more, there was no major difference in the outlook of the new and old principals. Both were determined that there should be no compromise on the matter of the status of part-time students as full members of the University.

Innovation and change did not stop. Raising the profile of the college was still a high priority. In 1978 the college turned to mass advertising with the purchase of advertising space in subway stations. The new principal was a little uneasy about how this would be received in the rest of the University. Shortly after the subway boards went up, he was entering the St. George station

IT REMAINS NOW FOR GOOD INTENTIONS TO BE TRANSLATED INTO BRICKS AND MORTAR



when he was greeted by a distinguished looking man in an old black beret with the words, "love your subway ads". This was a great relief. If President Ham approved it was bound to be a help in dealing with criticism. Emboldened by this success, Carole McMahon and Linda Gee developed radio commercials for popular music stations: again, not without some nervousness on the part of the principal and Alex Waugh, who by this time was vice-principal.

During the '70s the composition of the student body changed dramatically. Traditionally school teachers had formed the majority of part-time students. By the end of the decade they formed a small minority of a much more heterogeneous college population. These changes meant that the pre-university courses became an even more important element in the college's programs. Since a higher percentage of new students had been outside the formal education structure for some years, the college's effective study program took on a larger significance. There was little point in admitting new students if they were not to be given some assistance in preparing themselves to get the greatest benefit from their university studies. Evelyn Cotter found herself head of a larger enterprise, which included writing and math labs, a study skills course (program of preparation) and individual study programs for those having trouble in writing papers.

Greater enrolment also made counselling activities a higher priority. These have been expanded to include an arrangement with the Career Counselling and Place-

ment Centre, under which a counsellor is available in the college on certain evenings to advise Woodsworth students.

The college has received enthusiastic support from its alumni since its creation. Its two alumni groups, the Woodsworth College Alumni Association and the Business Certificate Alumni Association, have provided funds for many new programs. The operating budget of the college has not been large enough to support many activities crucial to the growth of the collegiate community. The alumni associations have used their funds for this purpose. Of particular significance has been their support of academic quality. They have funded many scholarships for the large number of Woodsworth students who have distinguished themselves academically. Part-time students have not only won full recognition, they have also demonstrated that they are the equal of full-time students in academic attainments too.

Financial stringency has forced the college to review all of its programs. In order to introduce new ones, some which have served their purpose in the past have had to be phased out. Such decisions are never easy, but they must be made if the college is to continue to fulfil its role as a centre of innovation. In the past few years the introduction of new programs in gerontology and in law enforcement and administration have brought new groups of students into the college. Both Extension and Woodsworth experimented over the years with overseas programs. The summer session program at the University of Siena in Italy has been the most successful experiment and has led to a continuing relationship with that historic centre of scholarship. Despite the concerns generated by the limitation of resources, very special efforts have been made by senior colleagues in the University to give substance to the declared commitment to improve opportunities for part-time students.

As the range of college activities has grown, the limitations imposed by the old building at 119 St. George Street have become more and more irksome. The possibility of creating new offices by subdivision of the building have been exhausted. Alumni and students have provided funds to upgrade attic rooms but there is no more space to be transformed. Increasingly, college events have to be held in other buildings around the campus, and much of the community-building force of these activities is lost. The college plan, approved by the Governing Council in 1983, set out the case for new space, which would include faculty offices and more student facilities. The legitimacy of the college's claims has been recognized by the administration. It remains now for good intentions to be translated into bricks and mortar.

One thread that runs through the story of the first ten years of the college is co-operation. How appropriate J.S. Woodsworth would have found this; that a college named in his honour should achieve success through the working together of its students, alumni, faculty and staff, with the comradely help of other parts of the University. In building a new college, money is necessary; but even more important are friends. Woodsworth is the creation of a friendly university, striving to ensure that the working people of Toronto have full access to the city's intellectual treasurehouse.



THE CAMPUS AS A CORPORATION

JUDGING FROM A BOOK WRITTEN BY A TEAM OF MANAGEMENT consultants who studied the most successful firms in North America, universities, and particularly the University of Toronto, appear to be run according to the best and most up to date corporate and industrial management techniques.

Should anyone think it presumptuous of a university president to equate his institution with major corporations, remember that we *are* a major corporation with a budget of \$400 million, with 40 acres of roof (much of it upwards of 25 years old), with 7,600 telephones, and with ten and a half miles of sidewalks which must be kept clear of snow.

The book is *In Search of Excellence*, written by Thomas J. Peters and Robert H. Waterman, Jr., and in it I was drawn to concepts such as Management by Walking Around, Encouragement of the Autonomous Entrepreneur, and an emphasis on "simultaneous loose-tight properties" which translate into situations where one has "fanatic centralists" focusing on the few core values they hold dear (and on which they can achieve consensus), and yet where the essential atmosphere seems not that of a large, traditional corporation "but rather a loose network of laboratories and cubbyholes populated by feverish inventors and dauntless entrepreneurs who let their imaginations fly in all directions."

If it all sounds oddly like a university, the authors leave no doubt: describing these most successful companies they refer to the "campus-like" atmosphere, which they see as one of the keys to excellence.

"Success" in the business context refers not only to making money but to the ability to adapt to a rapidly changing economic environment as well as to constantly shifting consumer needs. The business of the university is, of course, teaching and research, and we, too, must adapt. It's difficult to say much about profits but easy to discuss dividends.

A few examples:

John Polanyi is known for his fundamental breakthroughs in chemistry, Louis Siminovitch for his studies in genetics. Our Institute for Aerospace Studies, through the work of people like Ben Etkin and Irving Glass, is world famous. The Turing Award has been given to Stephen Cook in computer science, reflecting the fact that our computer science department ranks among the top six in North America. J. Tuzo Wilson is known internationally for his knowledge of continental drift, Desmond Morton for his insights into Canadian history, Josef Skvorecky for his novels, James Ritchie for his investigations into the biology of the north, Boris Stoicheff

for his work on lasers, Alexandra Johnston for her work on medieval drama, Northrop Frye for his literary criticism and his sense of the Canadian identity.

In short, the University of Toronto is a continuing source of pride to her alumni, of intellectual stimulation to her students and of dividends to society.

This is no small achievement.

Certainly I took great heart in reading the book for clearly the style in which the University is run is a good one. It may sometimes seem chaotic, other times cumbersome, but the results are creative and imaginative. The focus on individual contribution, whether by faculty, staff or student, and the high priority attached to quality mean that we are doing something right.

Peters and Waterman stress that the excellent firm is close to the customer, constantly learning from the people it serves. We serve and learn from our disciplines and our peers. We serve and learn from undergraduate students and graduate students (pretty close to 50,000 of them, and far more than that if you include those attracted to our continuing education programs). And we serve the public through our research and scholarship. All of this we do well.

But it isn't enough.

As President, I have been getting out, listening to many people on and off campus, and have announced several initiatives which I believe we must pursue. Enough has been said about the financial woes which have beset us. It's time to concentrate on the success we have had in the continuing struggle to do better with less.

We must listen to our alumni and we must hope you are talking to us, for the continued success of the University depends to a large extent upon you. We must also encourage greater communication both within the University and beyond, with the alumni and the world at large, and this, perhaps, explains to some extent the appearance of a President's column in these pages. I intend to share thoughts and news which will help to keep you informed about what is happening in your University.

President

HOW CAN I WIN IF YOU DON'T LOSE?

BY JUDITH KNELMAN

GAMES WHERE THE WINNER DOESN'T TAKE ALL

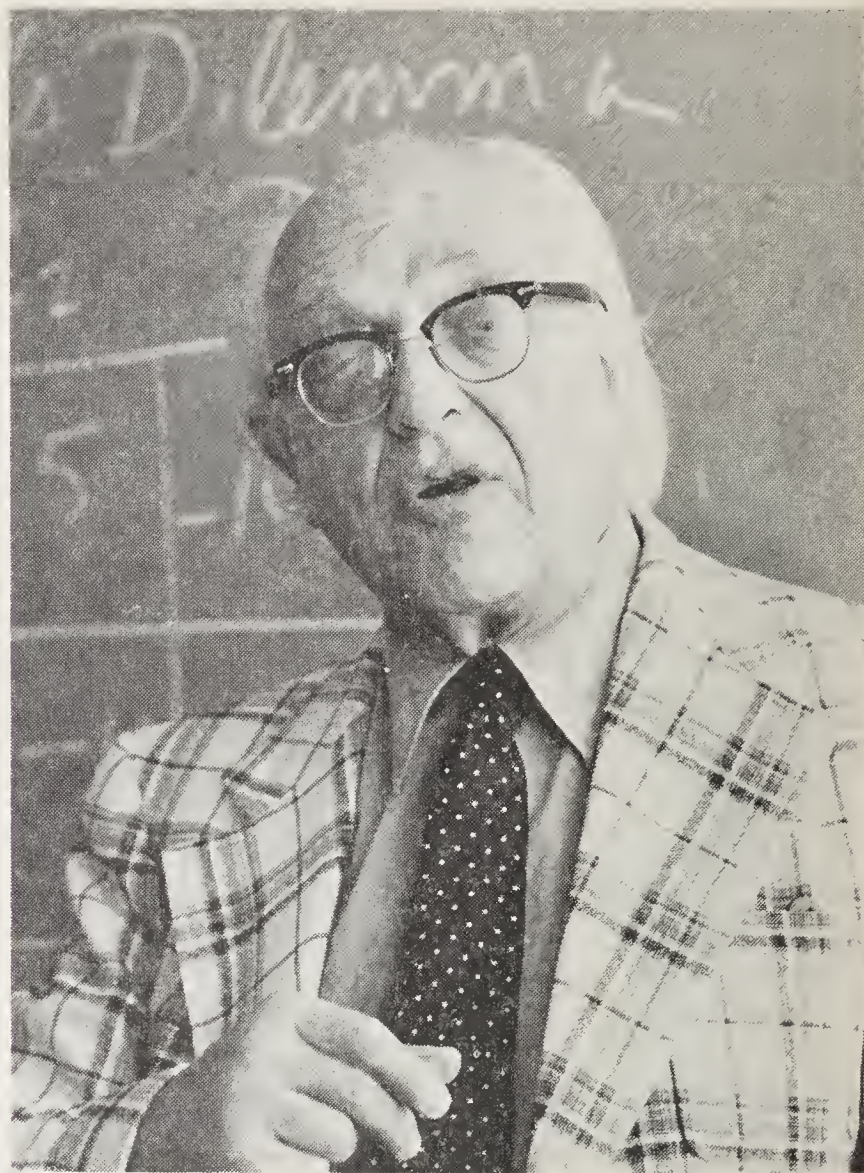
IT'S COMMONLY BELIEVED THAT SO-CALLED ZERO-SUM games like Monopoly, poker and bridge, in which what one player wins represents the loss to his opponents, are an imitation of life. Success means someone else's failure, a feast someone else's famine. Survival of the fittest means it's you or the other guy: to keep on top of the competition, you have to deprive others of what you all want.

Anatol Rapoport, professor emeritus at U of T, director of the Institute for Advanced Studies in Vienna until December and now back here to do research and teaching in peace studies at University College, returned to Toronto each summer to teach a course in social psychology that demonstrates, among other things, the folly of this notion. In 1970 he came to the University on a dual appointment in mathematics and psychology, and now he combines the two approaches in a statistical analysis of how people tend to resolve conflict.

By means of a program of strategy he has worked out for a simple game called the Prisoner's Dilemma, which looks something like tick-tack-toe and takes even less time to play, he is able to show that life is not a zero-sum game at all. Not only is it not necessary for the winner to take all: it is impossible. The winner does best by sharing, and never attempting to put one over on the opponent. To win, you quietly follow the other person's lead, never trying to outmanoeuvre him except in immediate retaliation.

Life, says Rapoport, is a mixed motive game in which the interests of people partly coincide and partly conflict. To get what they want, they have to co-operate. They must trust each other consistently and be prepared to share the rewards available.

The game, which was discovered and circulated in the early 1950s, has aroused a tremendous amount of interest in academic circles, he says, because it demonstrates an important moral lesson: that the meek



Anatol Rapoport

shall inherit the earth. When it is played in a situation that simulates society or evolution — a tournament environment wherein every player uses his own peculiar strategy consistently against every other player and then against himself — those who co-operate do much better than those who try to trick their opponents.

"Think of two scorpions in a bottle," he suggests. "If neither attacks, both will survive. If one attacks, the other retaliates, and both die. An even worse situation for the scorpions develops when one has to plot its strategy for survival on the assumption that the other may attack at any time."

The game worked out to represent the prisoner's dilemma mathematically gives each prisoner two alternatives. Each is told that if both keep quiet they will both get a sentence of two years, but if one rats he will get off free while the accomplice will get five years. The catch is that if they rat on one another both will get four years.

Prisoner's Dilemma		Your Accomplice	
		Keeps Quiet	Rats
You	Keep Quiet	(-2, -2)	(-5, 0)
	Rat	(0, -5)	(-4, -4)

If each is sure that the other will keep quiet as well, that is the best course for both. But can they trust each other? The dilemma of the game is in the circumstance that

This article is reprinted from the U of T Bulletin.

it is in the interest of each prisoner to implicate the other whether or not the other co-operates. If the other keeps quiet, he will still get a two-year sentence, while telling on the other gets him off free. As betrayal by both results in a four-year sentence while keeping quiet could result in a five-year sentence, it's best to rat no matter what the other does. However, if neither rats, both get only two years.

Robert Axelrod, a political scientist at the University of Michigan, where Rapoport taught before coming to U of T, decided to extend this problem to a tournament using computers to find the best consistent strategy for this sort of dilemma, which regularly confronts individuals and governments, in the form of potential rewards rather than punishments. The goal is to do as well as possible in your dealings with others over the long term. Rapoport won over all the other experts with the shortest and simplest program submitted, TIT FOR TAT, which shows that you do not have to deprive others in order to succeed yourself. His strategy is to co-operate or defect according to the lead of the other player. Even the most successful of the rival programs came to grief when they had to play against themselves, but TIT FOR TAT did nothing to hurt itself. It demonstrates the golden rule, do unto others as you would have them do unto you.

Method of Play

		Player A	
		Co-operates	Defects
Player B	Co-operates	X, Y	
	Defects		

If Player A chooses the left column and Player B chooses the top row, the top left box prevails: Player A gets the value of Y in that segment, and player B the value of X.

You play the game over and over again with the same partner, so that what happens in one game influences what happens in the next. You also play it over and over again with other people, just as you interact more than once with a large group of people in your everyday life. The idea is to accumulate the highest overall score. It is not necessary to vanquish individual rivals in order to do this.

One of you chooses the boxes in a horizontal row, the other in a vertical column. Neither knows until the game is over what the other's choice was, but it's obvious that if you are playing for money you will want 10 points rather than -10 and may have to settle for 5. You get the number of points contained in the square that overlaps both choices, the row chooser getting the number of points on the left and the column chooser the number on the right in that square.

This is one example of the game played for money:

5, 5	-10, 10
10, -10	-1, -1

If you were sure that the other would choose the column or row that contained the 5s, you might opt for that one — except that you might be tempted to out-manoeuvre your opponent by opting for the 10. The hitch is that the two of you have to play again, and he wouldn't trust you the next time.

"It is a very neat way of testing to see how people co-operate and compete," says Rapoport. Many experiments have been conducted — including some at the Ontario Science Centre — to see how long it takes people to realize that it pays to co-operate, how long one player can stand to be the loser in an effort to induce the other to be co-operative, etc. Rapoport says that people in the test situation of a long series of plays (usually about 300) seem to learn at the beginning not to co-operate but to try to beat their opponents or to defend themselves. Then they both start losing. About half start out co-operating, and after an initial decline of co-operation 70 per cent of the men have fixed on co-operation, but there is not the same recovery for women, of whom only about 35 per cent end up co-operating. That seems to be not because women are less co-operative but because they pay less attention to a diagrammatic representation of the game. When men play without seeing the diagram they do as poorly as women or worse.

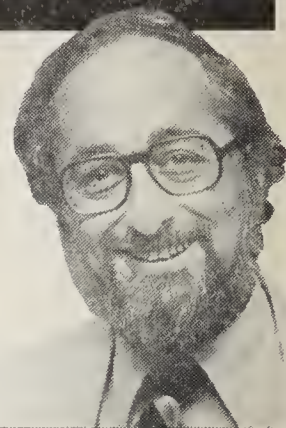
The research has obvious implications in many areas from domestic (the parent-effectiveness method seems to be based on it) to international. Rapoport uses it to plead publicly for nuclear disarmament: in fact, he was recently brought from Vienna to Toronto to give a symposium on the university's responsibility in the promotion of peace sponsored by Philosophers for Peace, Physicians for Social Responsibility, Science for Peace, the Student Christian Movement, University College and the University of Toronto Campaign for Nuclear Disarmament. He thinks that like two scorpions in a bottle we are doomed if we do not trust our rivals. And even if our trust is not justified, he points out — if the other side does not disarm and we do — we may actually be safer than if we remained armed, since once we are no longer a threat they would have no need to attack us.

"I have no use for either superpower," says Rapoport. "I very much admire the small democratic countries that are not powerful." Canada, he says, is "sensible". It has the advantages of the U.S. without succumbing to the excesses.

In his own life, Rapoport has avoided competition as much as possible. He gave up a career as a concert pianist in Europe and the U.S. in the 1930s because he did not enjoy the competitive aspect of it. In 1938 he enrolled in the graduate program in mathematics at the University of Chicago and received his Ph.D. two days before Pearl Harbour — on Dec. 5, 1941. Then he became a captain in the U.S. Air Force. "At that time I believed it was absolutely necessary to crush the Axis," he says. "Now I'm not sure. We expected that the destruction of the fascist power would bring global co-operation, but that certainly did not happen."

As in the game, the secret of success lies in the correct definition of the problem. "You make your choice by asking not 'How do I do better?'," says Rapoport, "but 'How do *we* do better?' You have to trust each other to co-operate. Then the answer is obvious." ■

A GOOD BOOK IS A GOOD FRIEND



WE SEEM TO LIVE IN AN ERA OF THE near-book and the non-book. They proliferate on the best-seller lists and in the stores. Formula romances and prescriptions for managerial success. *Jane Fonda's Workout Book* is followed by *Miss Manners' Guide to Excruciatingly Good Behavior*, *101 Uses for a Dead Cat* by *Garfield Sits Around the House*.

These at least have the appearance of books. There has been talk lately, in some academic and government circles, of publishing without benefit of paper, ink, or binding. Authors, editors, reviewers and readers would be linked in computer networks spanning continents and oceans. Writing, revising, editing and reading would all take place at computer keyboards, the words evanescent on video screens. Communication would be at the speed of light — both ways. No more waiting fretfully for reviews. Books and articles, in progress or complete, could be transmitted instantaneously to a circle of subscribers. Their responses could return just as promptly, the work revised, and re-issued: the number of editions could be infinite. Canada has already produced one such electronic novel, and the specialized electronic journal is just over the horizon.

There are practical reasons why this brave new literary world, though technologically already possible, will not touch many of us for some time. Many of the reasons relate to the "human engineering" that must still be done to make electronic publication attractive — to make the system, in the cant of the trade, user-friendly.

I thought about this recently at an event that was distinctly *reader-friendly*. Erindale College was throwing a party for staff members who had had books published in the preceding year. Twenty-six authors were honoured; among them they accounted for 31 volumes. Not bad for a young college.

Erindale also issues an annual list of its staff's publications. There was a time when this was done for the university as a whole, and an impressive document it was — a good-sized volume in its own right, a record of achievement in advancing knowledge. Over the years it was a proud record, too, embracing Boyd's *Pathology* and Frye's *Anatomy of*

Criticism, Innis' *Cod Fisheries* and Etkin's *Dynamics of Flight*, McLuhan's *Gutenberg Galaxy* and Bolton's discovery of a black hole in space.

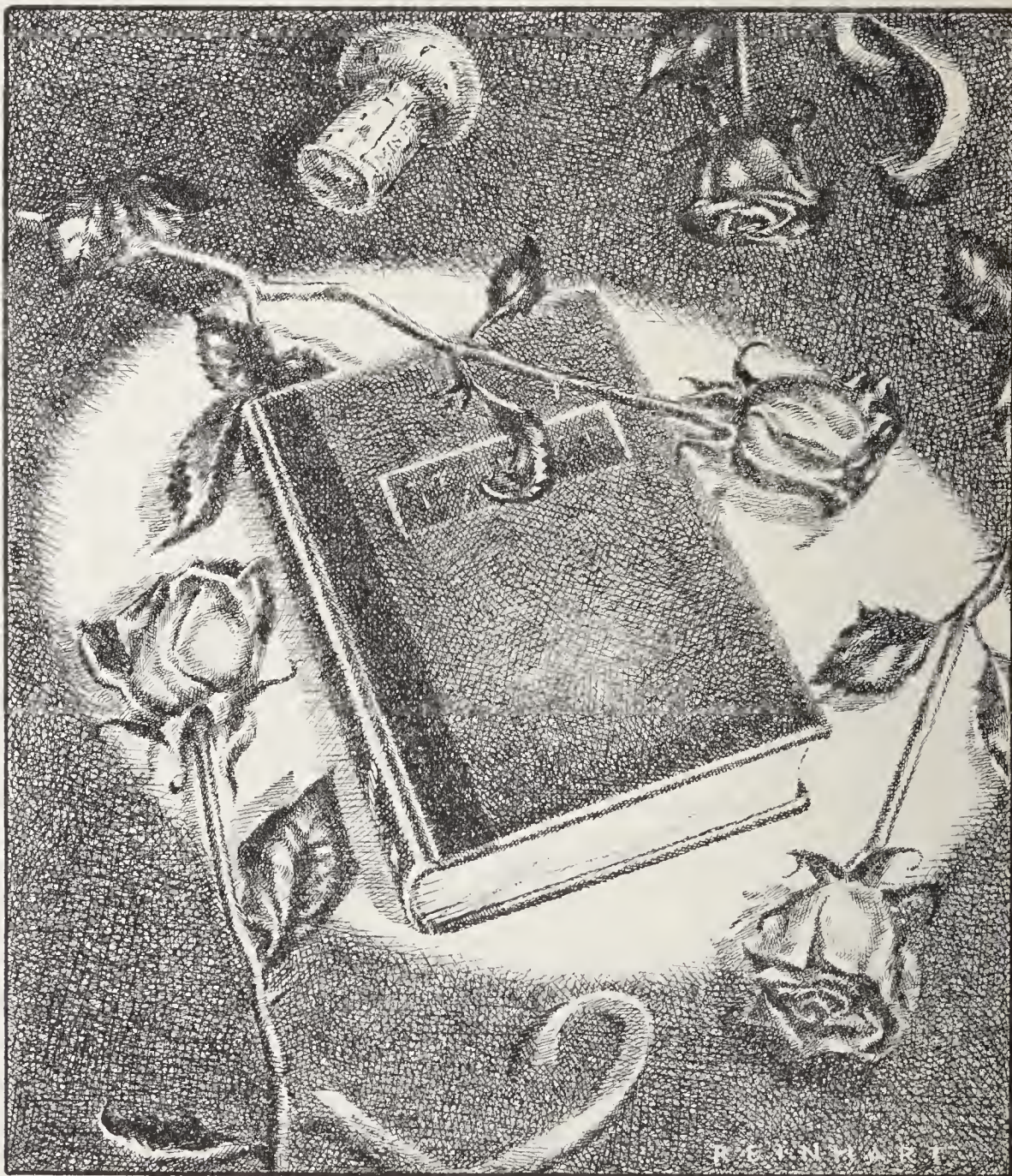
Its books and articles are an integral part of the University of Toronto. There is little point in research, after all, if others can't learn and benefit from it. That is why most great North American universities boast great university presses.

Good publication encapsulates the excitement of discovery, the elegance of analysis and reflection. And, despite the acolytes of the byte and chip, good publication promises to remain by book

and journal. I find that reassuring.

The book is still the handiest form of random-access data storage ever invented. It is fully portable — readable on the bus, at the beach, or in the bath. It involves the senses: think of the smell of a new book, the feel of good paper, the sound of a turning page, the look of crisp inking and handsome typography. The book remains a source of knowledge as well as information. It is a good friend.

Thank goodness we still have so many of them. And thank goodness for places like Erindale, where they still not only write real books but see them as a cause for celebration. ■



MICHAEL REINHART

U OF T CHOSEN FOR ASTROPHYSICS CENTRE



THIS NATION'S DAUNTING BREADTH has tended to present a geographic barrier to "east/west" collaboration among Canadian scientists. It's simply quicker and easier for someone doing research in Toronto to visit a colleague at Cornell than one in Calgary.

But if Canada is to ensure its national presence in the scientific big leagues, its research endeavours should not be scattered. Doing world-class research into the origin and structure of the universe, for example, is an expensive undertaking. Both focus and facilities are required in order to make the most of funds available from the federal government.

That's why members of the Canadian Astronomical Society decided to co-ordinate the national effort by establishing a Canadian Institute of Theoretical Astrophysics (CITA). They wanted a centre of excellence to consolidate present strengths and exploit the collective potential. The question was: where?

The CITA committee agreed that the chosen university must have a sophisticated computing system, substantial library resources, a high profile in the international research community and a range of first-rate observational and theoretical personnel. The list of possible candidates was narrowed to three and, after extensive deliberations, the choice was U of T.

Thirty-six grant-holding theorists from 19 different institutions signed a funding application to the Natural Sciences and Engineering Research Council, which has agreed to provide CITA with \$172,000 in the first year, \$237,000 in the second, and \$302,000 in the third. As start-up money, the University will be kicking in about \$175,000. This is the first time a national institute has been sponsored by U of T's School of Graduate Studies.

By July, CITA will be situated in the McLennan Physical Laboratories, shoulder to shoulder with the cognate departments of astronomy and physics. A search is currently being conducted for a director. Others associated with CITA will be permanently appointed scientists, visiting scientists and graduate students from U of T and other universities.

Along with promoting interaction between observational and theoretical astronomers, CITA will sponsor international meetings and seek out experts to work on key astronomical problems.

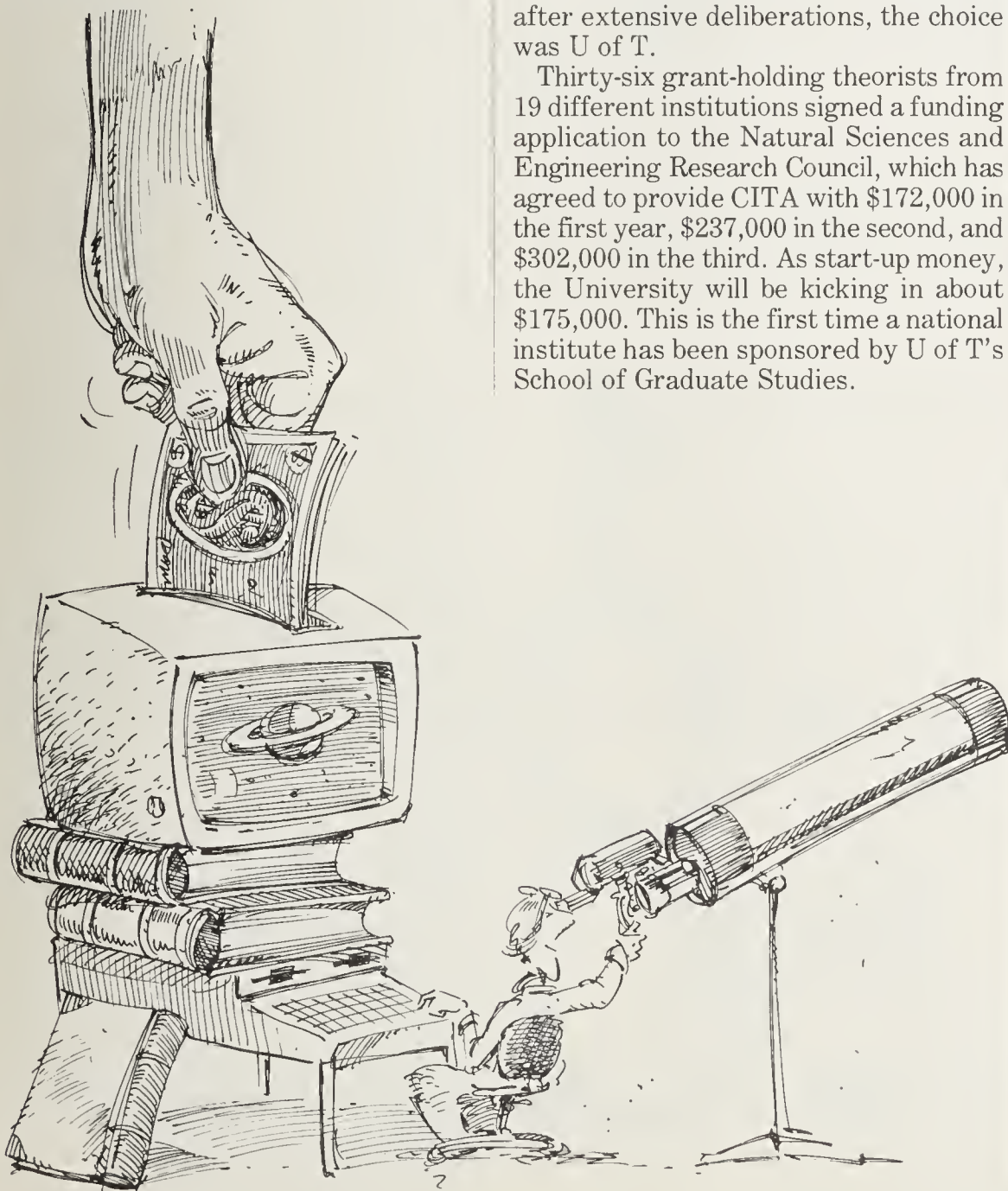
"The institute should bring us to the forefront of research in this field," says President David Strangway.

PRESIDENT CALLS FOR MAJOR FUND DRIVES

FEW SECTORS OF SOCIETY HAVE managed as dramatic an increase in activity as U of T at the same time that their resources were being dramatically cut, President David Strangway told Governing Council. The University's research effort has multiplied about 15 times since 1953, he said, citing the Departments of Classics and Computer Science as being particularly outstanding. Classics ranks among the top two or three on the continent, and computer science among the top six.

In the past five years, the student body increased by seven per cent, while faculty numbers decreased by four per cent and real dollar support from provincial grants and tuition fees decreased by four per cent. Yet the University still manages to attract so many applicants that, in the most recent admissions cycle, the minimum cut-off level in almost all divisions at U of T had risen to 70 per cent.

Living on a shoestring might result in resourcefulness for a while but if the penury is prolonged, there's a distinct possibility of starvation. That frightening spectre has spurred President Strangway to announce a major fundraising campaign in 1984-85. A council, composed of leaders from the external community, will be established to provide continuing advice on developing and implementing the



campaign. Strangway will also be asking Governing Council members for their views on setting and achieving the campaign objective.

The President also wants to double the level of contributions in the University's annual appeal for funds and, so far, it looks as if that fantasy might not be too far-fetched. As of the end of November, gifts to the Varsity Fund were up by more than 1,000 over the same 11-month period in 1982 and the amount taken in had increased by 25 per cent. The most startling increase came from graduates in the U.S. whose contributions in 1983 totalled about \$50,000, up from about \$12,000 last year — and that's without counting December, when a large number of donations come in.

THE LARGEST STEP TOWARDS ACCESSIBILITY

WHILE CONCERN MOUNTS OVER THE issue of access to Ontario's universities, University of Toronto will be celebrating the 100th anniversary of what one professor describes as "the largest step the University has ever taken towards accessibility." The occasion being marked is none other than the centenary of the admission of women to this august institution.

Although women had been able to present themselves as candidates for degrees as early as 1877, they were not allowed to attend lectures at the University. Rather, they were obliged to receive their first year tuition from collegiates and fulfil subsequent academic requirements working with private tutors.

Sir Daniel Wilson, then President of the University, said that if women *had* to be admitted, it should be to their own college. However, under pressure from the Ontario legislature, the doors of Univer-

sity College were opened to women Oct. 1, 1884: three in first year, two in second, one in third and three in fourth. Wilson observed at the time that the decision to admit women had the potential to double the college's enrolment, then 400.

"It made higher education available to all qualified people," says arts and science vice-dean Jane Millgate. "That's why it's worthy of celebration by everyone, not just women."

Millgate is chairman of a 12-member steering group that has organized a committee of 100 women to plan celebratory events for the academic year 1984-85. To establish scholarships in the names of pioneer co-eds, a fundraising goal of \$100,000 has been set. Contributions may be made to the Women's Centenary Fund, c/o Department of Private Funding, 455 Spadina Ave., Suite 305, Toronto, M5S 2G8.

Events will also be taking place at the University throughout the year for the sesquicentennial celebrations of the City of Toronto and the bicentennial of the Province of Ontario. In recognition of the former, the theme of this year's U.C. symposium is the city, and one of the Later Life Learning lecture series organized by the Community Relations Office will be on "The City: its life and growth". A series of city walking tours is being co-ordinated by the School of Continuing Studies, U of T historians and geographers are contributing to a book to be published by the city, and University

College will be the subject of a booklet.

Photographs, books and archival materials illustrating Toronto's history will be exhibited in February and March at the Robarts Library where, in May, Bette Stephenson, minister of colleges and universities, will open "Research for Living — University of Toronto (Provincial Bicentennial Exhibition)." In addition, the student medical society for the annual open house is planning to feature U of T's medical discoveries.

SPATE OF HONOURS TO FACULTY MEMBERS

WHEN INDIVIDUALS AT THE UNIVERSITY receive "outside" recognition, the collective reputation of the place is enhanced; so it has been heartening to hear about a spate of honours recently accorded five faculty members.

Former library science dean Frances Halpenny, associate director (academic) of the U of T Press, has received one of two 1983 Molson Prizes from the Canada Council. Valued at \$50,000 each, the prizes recognize outstanding contributions to the arts, humanities and social sciences. They are funded out of the income from a \$900,000 endowment, given by the Molson Family Foundation.

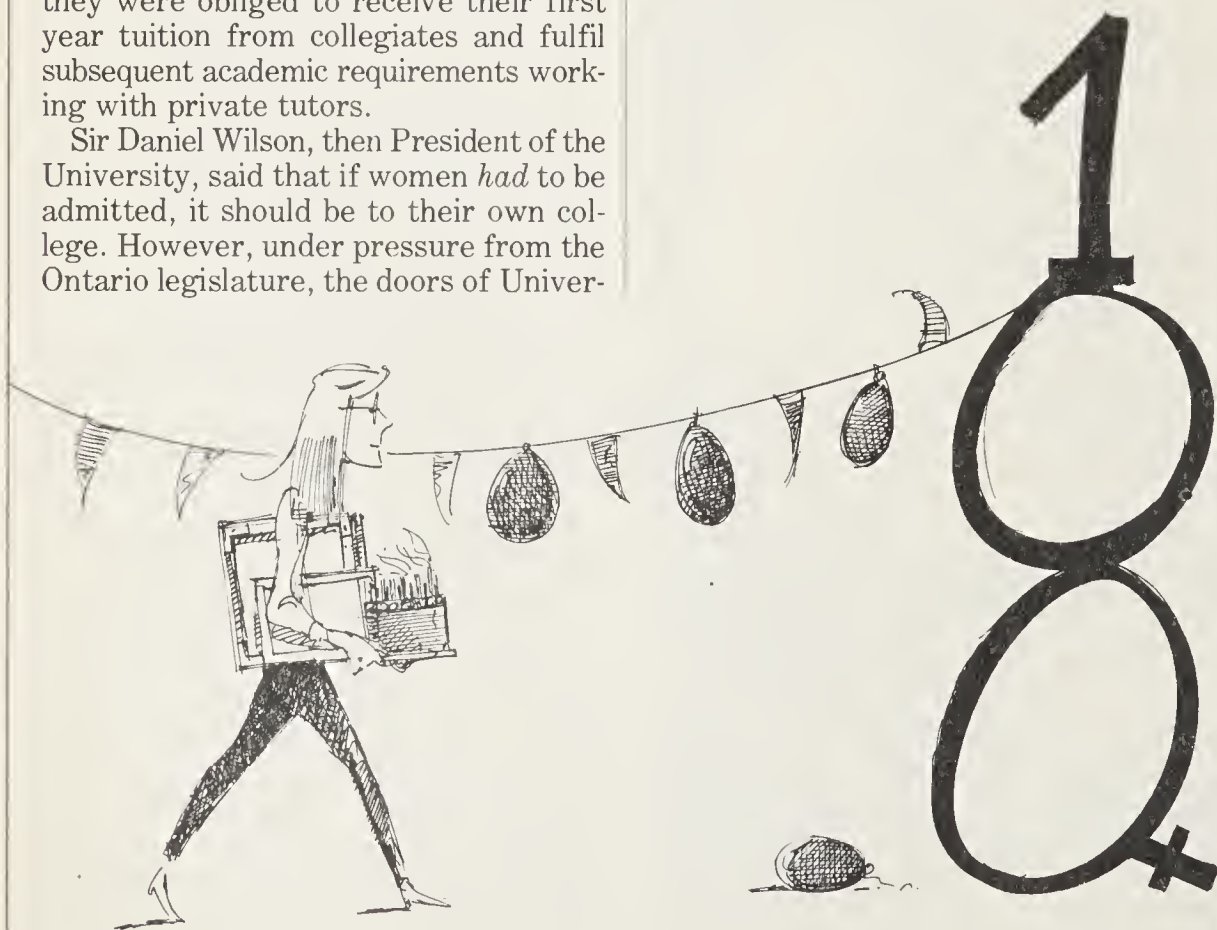
Halpenny has been associated with the *Dictionary of Canadian Biography* from its beginnings in 1959, and has been general editor since 1969. Eight volumes have been published to date and another four are in progress.

Past U of T recipients of the Molson Prize include Northrop Frye, Marshall McLuhan and John Weinzwieg. The other 1983 winner is choreographer and director Brian Macdonald.

History professor Robert Spencer has been presented with a 1983 Goethe Medal, the sole cultural distinction conferred by the Federal Republic of Germany. Named after Germany's most eminent author, scholar and statesman, the medal is awarded each year to a maximum of five people outside Germany in recognition of their outstanding achievements in support of cultural relations between their countries and the Federal Republic.

Spencer has published work on the recent history of the Federal Republic of Germany and on its system of alliances. The director of the University's Centre for International Studies, he was largely responsible for establishing a visiting professorship here in German and European studies.

Only three other Goethe Medals have been awarded in Canada — all to pro-



fessors of German at U of T. The recipients were Barker Fairley (1959), Hermann Boeschstein (1960) and Hans Eichner (1973).

Readers of *The Graduate* might remember an article on Elspeth Cameron and her biography of Hugh MacLennan (March/April 1981). After that first book proved to be an award winner, Cameron turned her hand to a journalistic assignment. Once again, a maiden effort turned up trumps. Her profile of author Peter C. Newman, published in the September 1982 issue of *Saturday Night*, won the 1982 Fiona Mee Literary Journalism Award. A memorial to the late editor of *Quill and Quire*, the \$1,000 award was established in 1978.

Cameron is now working on a biography of poet Irving Layton but that's just a sideline. Her principal occupation is co-ordinating the Canadian literature and language program at New College.

Professor Kay Armatage has picked up first prize in the educational film category at the Chicago Film Festival. Her winning entry, *Storytelling*, shows seven of the best storytellers in North America displaying the artistry that makes their work moving and memorable.

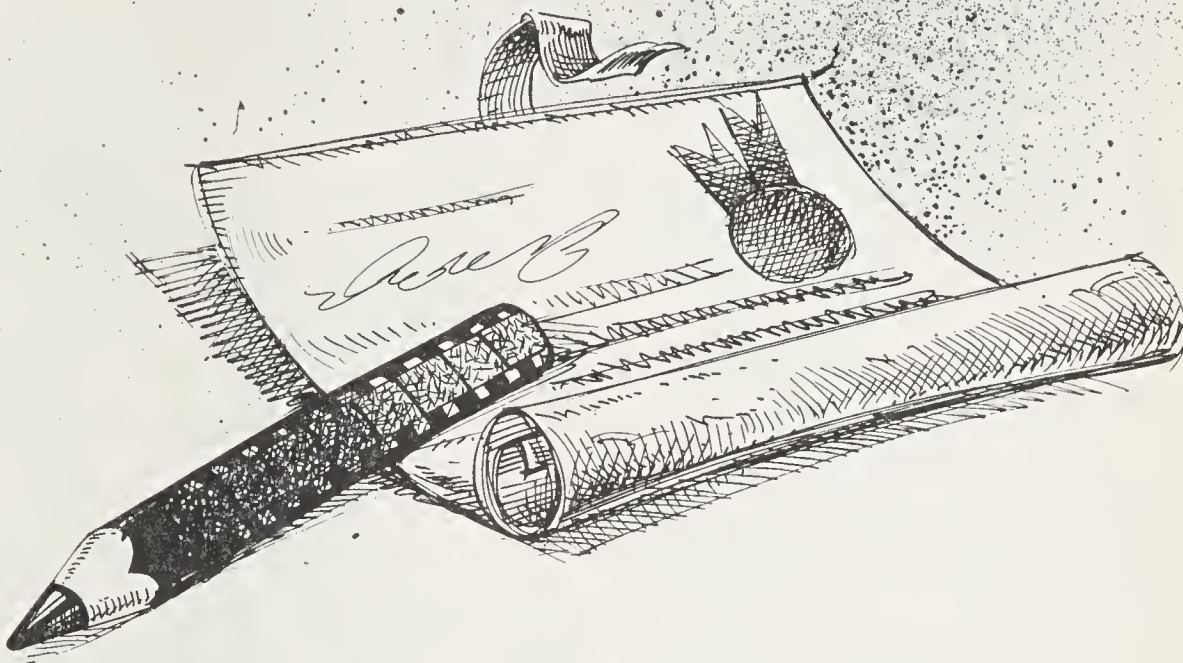
"In one way, it's a performance film and, in another, it's analytical," says Armatage.

The seven stories are intercut with one another so that the viewer is sometimes following as many as five narratives at a time. Although the tales are of varied origin — Metis, Inuit, Irish, Ancient Babylonian, Indonesian and black (both African and South Bronx) — there are striking similarities at certain points in the narrative. Among the features these stories have in common are journeys, season changes, turning points and transformations.

Armatage, who teaches in the cinema studies program at Innis College and women's studies program at New College, was inspired to make *Storytelling* by the recent revival of the oral tradition throughout North America. She chose the stories with a view to presenting an alternative feminist reading of folk culture to the one commonly promulgated — the one that finds men as the dominant characters whose heroic actions carry the narrative, while the women are almost invariably beautiful and passive.

"That work has been very important," says Armatage, "but there are ways we can retrieve folklore and narrative. Women can be producers of oral culture and heroes as well. Even the death of the Irish king, Brian Boru, is transformed when described in the context of the tale of a little bird, told by an old woman."

Similarly, the Inuit tale in the film describes a woman shaman bestowing a



gift on a man, and even the two stories told by men, about men, are not "masculine" in the traditional sense.

Storytelling is Armatage's sixth film. One of her earlier works, *Striptease*, placed second in the social and political documentary category at the 1980 Chicago Film Festival and was a finalist in the 1981 American Film Festival in New York City.

Scarborough College English professor Michael Tait didn't actually receive a prize but he did make a major contribution towards the winning of an ACTRA award for the best radio program of 1982. Not only did he write the script for *Fruit of the Poisoned Tree*, he also acted in it. One of 13 episodes in the CBC *Scales of Justice* series, the story centres around a

controversial 1972 Supreme Court of Canada ruling that raised questions about the admissibility of evidence "obtained in a manner likely to bring the administration of justice into disrepute." So striking was the case that it eventually gave rise to a paragraph in the Charter of Rights.

Tait — whose play *Fellowship* was performed at the 1975 Stratford Festival — is now working on another *Scales of Justice* episode. He has just completed 10 short radio dramas for CBC-AM's *Morningside*, hosted by Peter Gzowski. The dramatizations focus on cases from small claims court, the legal arena the average person is most likely to encounter.

"The claims might be trivial," says Tait, "but the human passions involved are often very great."

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HOMECOMING'S MEANING FOR WAYNE AND SHUSTER



"Homecoming is a time for fond recollection." Johnny Wayne

WAYNE, AND OF COURSE SHUSTER, were honoured guests at the T-Holders homecoming brunch on Saturday, October 15 in West Hall at U.C. Both are U.C. graduates, Wayne in 1940 and Shuster in 1939. Wayne remembered when he first understood what homecoming means to U of T alumni.

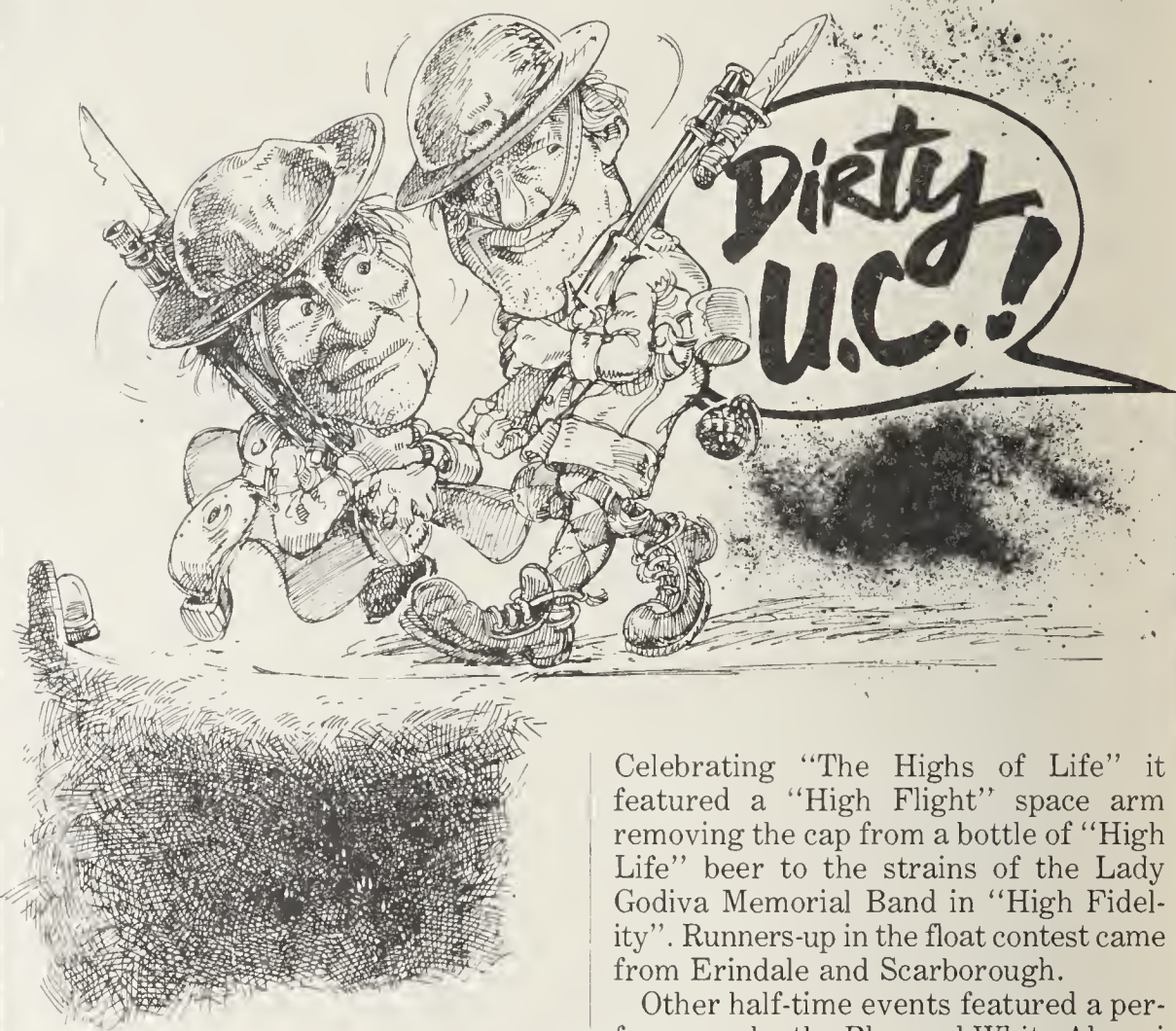
"Frank and I were in the first entertainment unit in Normandy after D-Day — the only unit ever to be fired on by both sides." They performed for the troops five times a day in a cave which served as a natural but primitive theatre. At one performance, just as Wayne and Shuster stepped onto the makeshift stage, six men in the audience yelled, "dirty U.C."

"It was a very touching moment," recalled Wayne. "We responded immediately with 'stinking skule' but both of us had tears in our eyes. It brought back memories of happier times that we will never forget. For us, in Normandy, in 1944, it was a sort of homecoming."

It's that kind of affectionate nostalgia that brought graduates back to the campus to participate in the hijinks of Homecoming '83. All the important ingredients were in the mix: a crisp fall day complete with brilliant blue sky, a parade with all the floats, bands and cheerleaders you could want and a 16-10 victory for the Varsity Blues over the Waterloo Warriors.

Homecoming '83 was particularly directed towards graduates of 1963, 1968, 1973 and 1978. Several constituencies organized their own events to bring these relative youngsters back to the campus. Innis College brought students, staff and alumni together for a barbecue, movie and dance while St. Michael's celebrated their most successful homecoming ever with a dinner, reception and annual Boozer Brown football game between students and alumni.

The most ambitious plans came from Engineering 1968 and 1973 who held a lunch in the Sandford Fleming cafeteria for 350 alumni and children before the game. They purchased a block of tickets for the game for more than 225 fans. Finally, they hosted a dance at Hart House for almost 200 couples.



The initiative for all this activity came from Peggy Simons, a 1968 chemical engineering graduate who works for Gulf Canada as superintendent of operations for their lube plant at Clarkson. Homecoming was Peggy's first experience at organizing an alumni event but she has some excellent advice on how to stage a successful one. First, start planning well in advance. She formed her committee 18 months ahead of time. Second, make sure your committee members are reliable self-starters. Peggy claims she didn't have much to do because everybody else came through. Finally, she says: "The main part of the work is getting the people there. We found that personal contact is best. Our follow-up by telephone really worked. We even used VISA to take orders over the phone."

At half-time all those engineers had the thrill of seeing the Engineering Homecoming float take first prize.

Celebrating "The Highs of Life" it featured a "High Flight" space arm removing the cap from a bottle of "High Life" beer to the strains of the Lady Godiva Memorial Band in "High Fidelity". Runners-up in the float contest came from Erindale and Scarborough.

Other half-time events featured a performance by the Blue and White Alumni Band led by Jack MacQuarrie, U.C. 1953, presentation of awards to the winners of a high school cheerleading contest and the introduction of the Varsity Blues championship team of 1948 that included former U of T president John Evans.

An added attraction throughout the day was Elwy Yost, U.C. 1948, movie buff and television personality on TVOntario. He spent the day interviewing the Blues coaches and players, chatting with cheerleaders, watching the parade and the game and talking to distinguished alumni like the Hon. Roy McMurtry, Trinity 1954, about their undergraduate days. The film footage these encounters produced was for a modern counterpoint on his Magic Shadows program to the 1936 movie *Pigskin Parade*, a college football musical in which Judy Garland made her debut. Asked about his own football memories, Elwy Yost admitted, "I never went to a game."

ST. MICHAEL'S ALUMNI HALL

A 20-YEAR DREAM CAME TRUE AT THE official opening of St. Michael's Alumni Hall on Saturday, October 15. Father John Kelly, then president of St. Michael's, still remembers the day in 1962 when he first went across the street to make the Ontario Research Foundation an offer he hoped it couldn't refuse. The ORF was the original owner of the building at 121 St. Joseph Street.

Premier Leslie Frost was encouraging, even demanding, university expansion and St. Michael's needed more space in order to oblige. Father Kelly had heard that the ORF was considering a move to new quarters. The foundation agreed to accept \$1.5 million for the St. Joseph Street site.

"It may have been the first year that the Ontario Council on University Affairs (OCUA) was in existence," recalls Father Kelly. "Leslie Frost was the chairman. I wrote asking him to put up the \$1.5 million for the ORF and give the building to the U of T for the use of St. Michael's. The package included 47, 43 and 39 Queen's Park Crescent East and the coachhouse at the back of 39.

"I answered the phone late one Friday afternoon and was summoned to the premier's office to find the whole OCUA present." Frost accepted Father Kelly's proposal at that meeting but within a month he had resigned and negotiations began again with John Robarts. It took two more years to arrange the details but in 1965 Father Kelly received another phone call. This time it was Premier Robarts telling him that arrangements had been concluded exactly as he had suggested.

St. Michael's had the building but "we didn't have any money," Father Kelly says. "We were in debt to the bank for the first 17 years that I was president. After consulting with us, the U of T used the building for a research facility for the Faculty of Medicine. We still have a pigsty in the back. Then it became the site for Physical and Health Education. Then, when the athletic centre was built, a computer library moved in."

But hope was in sight. Renovation of 121 St. Joseph Street became St. Michael's Update project in 1976. Assuming a cost of \$850,000, St. Michael's agreed to raise \$350,000 if the University would provide the rest from Update funds. At the end of the five-year campaign, Update money came to \$743,853, alumni giving to \$441,000 and interest on the funds from 1976 to 1983 to \$815,000 for a total of nearly \$2 million. Unfortunately, the costs, with inflation, amounted to \$3 million. St. Michael's bit the bullet and made up the difference from her scanty endowment.

St. Michael's current president Father Peter Swan explains why the costs of renovation were so steep. "It was a mess. It looked like an abandoned machine shop. We retained the outer walls, the inside columns and most of the floors. Otherwise, it's been gutted and rebuilt."

Alumni Hall, named in recognition of the contribution of St. Michael's graduates to the project, is now a multi-purpose four-storey facility. It houses the registrar's office, 37 offices for faculty and teaching assistants, 10 classrooms and, in the basement, a 24-hour computer instruction centre with 20 terminals. *The Mike*, St. Michael's student newspaper, has new headquarters next to the com-

Alumni Hall at St. Michael's, named for those who helped make a dream come true.



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puter centre. The show pieces of Alumni Hall are the three-storey high, 260-seat theatre and the fourth floor Council Chamber with its panoramic view of Queen's Park, the University and the city beyond.

Perhaps the most important office in Alumni Hall is room number 410, next door to the Council Chamber. Over the door, in plain black lettering, it says "Alumni". Inside is Father Kelly, still active as St. Michael's first alumni officer, quietly enjoying the culmination of his dream.

PHONATHONS

"ON ONE NIGHT IN SEPTEMBER, EIGHT OF us contacted 160 graduates and raised \$3,000. That was our slowest night." That enthusiastic endorsement comes from John Warwick, class of 1978, president of the Management Studies Alumni Association and super-phoner.

Along with 16 other constituency associations, Management Studies has realized the benefits of telephoning alumni to persuade them to contribute to the Varsity Fund. From mid-September to the end of November, more than 400 alumni, faculty members and students make their way to the third floor of the Tip Top Tailors building at the corner of College and Spadina, and the 25 telephones at the University's Department of Private Funding.

Dennis Duffy, principal of Innis College, displays the same enthusiasm as John Warwick. "I just wish we had twice the number of phoners because I'm convinced we could raise twice as much money," he says. "And it's great for the morale of the individuals who do it. My initial nervousness lasted about 20 minutes and then it was clear sailing. Phoning is particularly good for a young group like ours because it has substantially increased our Varsity Fund giving." The statistics speak for themselves. In 1981, before Innis participated in the phonathon, they raised \$780 from 27 donors. In 1982, their first year on the phones, they more than doubled their total to \$1,869 from 68 alumni. 1983 looks just as good.

Tennys Reid, director of campus relations at Erindale College, tells the same story. "In 1981, 49 donors contributed \$1,146. In 1982, we held our first full-fledged phonathon — four people on the phones for 27 evenings, 300 man hours — and we raised \$5,833 from 246 donors." Tennys is quick to point out that phoning is just one element of a successful campaign. "Phoning is the single most important thing but last year we also sent more



Doug Tigert, dean of the faculty, in the foreground, with John Warwick and the Management Studies super phone team.

information to our alumni about where their money was going and we wrote a better appeal letter," she explains.

John Warwick agrees. "People like what we do with the money — establishing scholarships, keeping the faculty library open on Saturdays, publishing an alumni directory. We also find it easy to recruit student phoners because they know we help finance their three-day orientation in September. Last year we doubled our annual contributions to \$14,000 by including students and faculty phoners. We just had more bodies.

"Ninety-nine percent of the people we phone are just super," John continues. "The number of cranks is very, very small. In eight nights in the past two years, I've had only two. And if you can raise \$400 in a couple of nights from previous non-donors, you really feel you are doing something for the University.

UTAA HELPS DEBATERS

U OF T'S WORLD-CLASS DEBATERS found themselves in a cash-flow problem this fall. The Associates, the fundraising organization for our American graduates, granted the University of Toronto Debating Union a hefty \$8,500 to cover their expenses for the academic year 1983-84. The cheque was scheduled to arrive in early January — a welcome

after-Christmas present.

In the meantime, our debaters were in desperate need of \$3,500 to take them to the national championships in Halifax, November 4-6. The UTAA came to the rescue and floated them a loan. It was a good investment; U of T won.

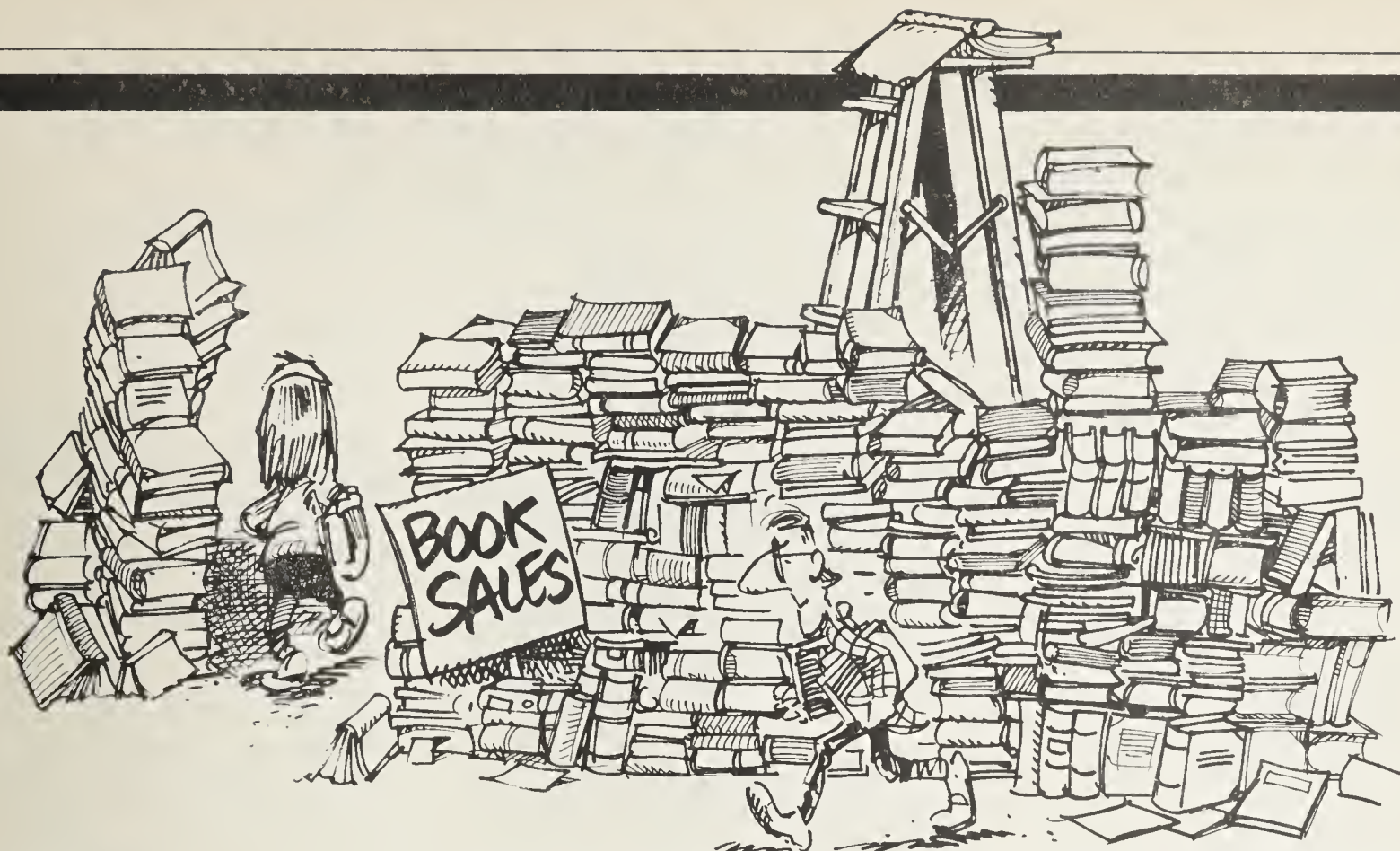
That victory left the debaters short the \$2,000 necessary to send a team of four to the world championships in Edinburgh, January 2-9. The UTAA willingly put up the cash again.

"Our chances are excellent," says Heather Ferguson, president of the union. "We won the world's three years ago in Glasgow and had the best individual speaker last year at Princeton. If we don't win we'll come very close to it."

INSURANCE

MAKE SURE YOU OPEN THAT ENVELOPE from the North American Life Assurance Company that will arrive in your letter box this January. It's offering you another chance to take advantage of the low-cost term life insurance sponsored by the UTAA.

To date, more than 1,100 alumni have joined the plan. The benefit to the UTAA is modest but important — three per cent of the initial premium for a total of over \$6,000 in the first two years of the plan to cover administrative costs. Advantages to alumni are obvious — high maximum and low-cost insurance offered as a service to U of T graduates by their alumni association.



BOOKSALES

IN THE PERIOD FROM SEPTEMBER 10 TO November 18, second-hand books were the source of \$31,650 for various University coffers. Two well-established book sales, Trinity's and U.C.'s, raised \$17,000 and \$10,250 respectively and two newcomers to the business, Erindale and Knox, raised \$2,800 and \$1,600.

Assuming that the average cost per book was \$1 (an educated guess), more than 50,000 books changed hands. To put that figure in perspective, the Trinity library's collection numbers 106,000; the U of T Bookroom estimates sales of 100,000 annually; and the Spadina Branch of the Toronto Public Library holds only 26,000 volumes.

Where do all those books come from? From libraries of alumni and friends of the colleges sponsoring the sales, from the faculty members who weed out their collections from time to time, even from other libraries. The sales couldn't exist without the generosity of these hundreds of people.

And where do they all go? Alumni, students, faculty members, staff, book-dealers, bibliophiles — they all swarm to the sales. Line-ups form two and three hours before the openings. Towards the end of the sales, organizers become increasingly imaginative in their marketing techniques. During the final hours of the Trinity sale, the oldest and most lucrative, buyers were tempted with the offer of 30 pounds of books for \$2 and 50 pounds for \$3. They found it hard to resist. Even so, at Trinity as well as the other colleges, the last problem facing the volunteers is how to dispose of the left-overs. Goodwill Services, friendly book-dealers, even other sales, all benefit.

Leaving nothing to chance, this year the Trinity Friends of the Library persuaded the college's chancellor to conduct the first-ever opening ceremonies. Standing at the head of the surging throng, the Rt. Rev. Robert L. Seaborn, Trinity 1932, former archbishop of Newfound-

land, cut a red and black ribbon, blessed the book sale and declared it open. It was only when the final results were in that he admitted that the last commercial venture he had blessed was the oil refinery at Come-by-Chance, Newfoundland. It was bankrupt in 18 months.

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T1/84

YAA ZOOSKI, OUR TOWN & SIR JOHN IN LOVE

LECTURES

Mutual Perceptions.

Thursday, Feb. 2.

American Interests and Prognoses for the Future.

Thursday, March 15.

Prof. Alfred O. Hero, Jr., World Peace Foundation; 1983-84 Claude T. Bissell visiting professor of Canadian-American relations; final two in series, "Quebec, Canada, and the United States." George Ignatieff Theatre, Trinity College, Devonshire Place. 8 p.m.

Information: Centre for International Studies, 978-3350.

Woodsworth College Tenth Anniversary Lecture Series.

Wednesday, Feb. 8.

Alan Cairns, director of research, Macdonald Royal Commission on the Economic Union and Development Prospects for Canada. Croft Chapter House, University College. 7.30 p.m.

Information: Woodsworth College, 978-5340.

Urban Landscape Design — Chestnut Park, Pa., and Salem, Mass.

Wednesday, Feb. 22.

Thomas Schraudenbach, landscape

Listings were those available at press time. Readers are advised to check with the information telephone numbers given in case of changes. Letters should be addressed to the department concerned, University of Toronto, Toronto, M5S 1A1, unless otherwise indicated.

architect, Delta Group, Philadelphia.
The Social Landscape of the 18th Century French Garden — From Belle Nature to the Landscape of Time.

Wednesday, March 21.

Prof. Remy Saisselin, State University of New York, Rochester.

Faculty of Architecture and Landscape Architecture evening lecture series.

Auditorium, Medical Sciences Building. (To be confirmed.) 6.30 p.m.

Information, 978-3089 mornings.

Groping towards Discovery.

Thursday, Feb. 23.

Prof. John Polanyi, University Professor, Department of Chemistry. Auditorium, Medical Sciences Building. 8 p.m.

The Limits of Science.

Tuesday, March 20.

Sir Peter Medawar, Clinical Research Centre, Middlesex, U.K. Convocation Hall. 8 p.m.

Wiegand lecture series, "Encounters of Science and Faith."

Information: Faculty of Arts and Science, 978-4352.

The Canadian Church — Global Responsibilities.

Monday, March 5

Douglas Roche, M.P., Edmonton South; Father John M. Kelly Theological Lecture. Upper Brennan Hall, St. Michael's College. 8 p.m.

Information: Faculty of Theology, University of St. Michael's College, 926-1300.

Larry Sefton Memorial Lecture.

Tuesday, March 13.

Robert White, Canadian director and international vice-president, International Union UAW. Auditorium, Ontario Institute for Studies in Education, 252 Bloor St. W. 7.30 p.m.

Information: Woodsworth College, 978-5340.

Harran (Turkey): City of Abraham and the Moon God.

Wednesday, March 14.

Prof. Douglas Esse, Oriental Institute, University of Chicago. Auditorium, Medical Sciences Building. 8 p.m.

Information: Society for Mesopotamian Studies, 978-4769.

School of Graduate Studies Alumni Association Visiting Lectures 1984

The Roots of Peace and War.

Prof. Eric R. Wolf, City University of New York, best known for his research on the rural roots of social unrest in Latin America.

Friday, February 24, auditorium, Medical Sciences Building. 8 p.m.

Information: Department of Anthropology, 978-3295.

The Genealogy of Dictionaries.

Prof. Robert Burchfield, C.B.E., University of Oxford, editor of the Oxford English Dictionary (and supplements).

Tuesday, March 27, 140 University College. 4.15 p.m.

Information: Department of English, 978-2526.

Trends in the Evolution of European Architectural Ideas.

Prof. Francoise Choay, research group of the urban studies department, University of Paris.

Date, time and place to be confirmed.

Information: Department of Architecture, 978-7002.

Information about the SGSAA series and other lectures being planned: School of Graduate Studies, 65 St. George St., 978-4101.

CONFERENCE

Sir Daniel Wilson Symposium in Anthropology.

Thursday, Feb. 23 to Saturday, Feb. 25.

In celebration of the beginning of anthropology instruction at U of T by Sir Daniel Wilson in 1853, the department is planning a symposium on the history and current state of anthropology in Canada. A special event will be the lecture by Prof. E.R. Wolf in the graduate studies alumni series, Feb. 24. Sessions will be held in the Media Room (179), University College.

Information: Department of Anthropology, 978-3298, or University College, 978-6922.

CONCERTS

FACULTY OF MUSIC EDWARD JOHNSON BUILDING U of T Chamber Orchestra.

Tuesday, Feb. 7.

Conductor David Zafer. Walter Hall. 8 p.m.

10th Annual Remenyi Award Competition Finals.

Sunday, Feb. 19.

Annual competition that started nearly 60 years ago in Budapest and was revived at the Faculty of Music nine years ago. House of Remenyi, distinguished Hungarian music firm now located in Toronto, will contribute a new instrument built by a contemporary Hungarian luthier. Preliminary sessions will reduce number of participants in finals to small group of Faculty of Music violin students. Walter Hall. 3 p.m.

Faculty Artists Series.

Saturday, Feb. 25.

Works by Mozart, Shostakovich and Franck.

Saturday, March 24.

Works by Beethoven, J.S. Bach and Messiaen.

Last two in 1984 series planned and performed by faculty's artists.

Walter Hall. 8 p.m.

Tickets \$9, students and senior citizens \$5.

Helena Bowkun, Piano.

Sunday, March 11.

Walter Hall. 3 p.m.

Fenyves, Orloff, Parr Trio.

Tuesday, March 13.

Walter Hall. 8 p.m.

U of T Jazz Ensemble.

Saturday, March 17.

Directors Phil Nimmons and David Elliott. MacMillan Theatre. 8 p.m.

Tickets \$5, students and senior citizens \$3.

U of T Wind Symphony.

Sunday, March 18.

Conductor Ronald Chandler. MacMillan Theatre. 3 p.m.

U of T Concert Choir.

Sunday, March 18.

Conductor William Wright. Walter Hall. 8 p.m.

Faculty of Music Contemporary Chamber Ensemble.

Monday, March 19.

Concert Hall, Royal Conservatory of Music. 8 p.m.

University Singers.

Wednesday, March 21.

Conductor Diana Brault. Walter Hall. 8 p.m.

U of T Concert Band.

Sunday, March 25.

Conductor Melvin Berman. MacMillan Theatre. 3 p.m.

U of T Symphony Orchestra.

Saturday, March 31.

Conductor Otto-Werner Mueller.

MacMillan Theatre. 8 p.m.

Tickets \$5, students and senior citizens \$3.

*Information on all Faculty of Music
concerts available from box office,
978-3744.*

ROYAL CONSERVATORY OF MUSIC

Elizabeth Keenan, Harpsichord.

Sunday, Feb. 12.

R.C.M. Alumni Association, Toronto chapter, scholarship fund series, recital will include works by Bach, Byrd and Couperin. Concert Hall. 3 p.m.

Tickets \$5, students and senior citizens \$3.

Art Gallery Series.

Sunday, Feb. 12.

Royal Conservatory Orchestra, conductor Agnes Grossmann, piano soloist Ron Lopata.

Sunday, March 18.

Chamber music featuring ensembles from Royal Conservatory Orchestra with coaches.

Series supported by Gannett Foundation and Mediacom Industries Inc.

Walker Court, Art Gallery of Ontario. 3 p.m.

Twilight Series.

Thursday, Feb. 16.

Joanne Dorenfeld, soprano; James Anagnoson and Leslie Kinton, piano.

Thursday, March 29.

Margot Rydall, flute; Pierre Gallant, piano.

Concert Hall. 5.15 p.m.

Tickets \$2, students and senior citizens \$1.

Royal Conservatory Orchestra.

Friday, Feb. 17.

Guest conductor Uri Mayer, works by Rossini, Bizet and Brahms.

Friday, March 16.

Masterworks from the small ensemble repertory including Beethoven Septet with guest artists.

Friday, March 30.

Guest conductor Boris Brott, works by Beethoven, Haydn, Ives and Mozart.

Church of the Redeemer, Bloor and Avenue Road. 8 p.m.

Tickets \$4.50, \$7 and \$9.50; students, senior citizens and handicapped \$3.50, \$5 and \$6.50. Box office, 978-5470.

Royal Conservatory Chamber Choir.

Saturday, Feb. 18.

Music director Giles Bryant, program of a capella part songs. St. Patrick's Church, 141 McCaul St. 8 p.m.

*Information on all Conservatory
concerts available from publicity office,
978-3771.*

EXHIBITIONS

Justina M. Barnicke Gallery, Hart House.

Feb. 2 to March 1.

Hearts; works by several artists in exhibition with heart motif as theme.

Alumni Faculty Award

The University of Toronto Alumni Association invites nominations for the ninth Alumni Faculty Award. Previous winners were Horace Krever (1975), Douglas Pimlott (1976), Louis Siminovitch (1978), John Polanyi (1979), Donald Chant (1980), Stefan Dupré (1981), Kenneth Hare (1982) and Desmond Morton (1983).

Selection will be based on academic excellence, service to the University and contribution to the community.

The selection committee consists of the Chancellor, the Provost, the presidents of the University of Toronto Faculty Association, Students' Administrative Council, Association of Part-time Undergraduate Students and Graduate Students' Union and members of the alumni-faculty liaison committee.

Nominations, which close on Wednesday, February 15 at 5 p.m., should include a resume documenting the qualifications of the nominee according to the selection criteria and should be addressed to: Co-Chairmen, Faculty Liaison Committee, Alumni House, University of Toronto, Toronto, M5S 1A1.

The award will be presented at a dinner in Hart House on Wednesday, April 4. The recipient will also address one of the graduating classes during the Spring Convocation.

For more information, please write to the Department of Alumni Affairs or call 978-8991.

March 6 to 16.

West Gallery: Hart House Camera Club
62nd Annual Exhibition of
Photographs.

East Gallery: Life in Toronto, a
Celebration of 150 Years; Hart House
Art Committee juried exhibition of
works by members of Hart House.
Gallery hours: Tuesday to Saturday,
11 a.m. to 6 p.m.

Robarts Library.

Feb. 6 to March 30.

Toronto: The Past 150 Years. Spon-
sored by Community Relations Office
and the Toronto Historical Board.

Scarborough College.

Feb. 20 to March 9.

Sandra Altwerger, paintings.

March 12 to 30.

The Malcove Collection, the modern
paintings.

Gallery Hours: Monday-Thursday,
9 a.m. to 7 p.m.; Friday, 9 a.m. to
5 p.m.; Sunday, 2 to 5 p.m.

Erindale College.

Jan. 23 to Feb. 10.

Sally Gregson, paintings in abstract
style.

Feb. 13 to March 2.

Pat Martin Bates, west coast artist.

March 12 to 30.

Spring Forward; annual show of works
by students in art and art history pro-
gram at Erindale and Sheridan College.
Gallery hours: Monday-Wednesday and
Friday-Sunday, 1 to 7 p.m.; Thursday,
1 to 9 p.m.

PLAYS & OPERA

Glen Morris Studio Theatre.

Feb. 2 to 5 and 8 to 11.

"The Fire Raisers" by Max Frisch.

March 1 to 4 and 7 to 10.

"Early Morning" by Edward Bond.

March 29 to April 1 and April 4 to 7.

"Our Town" by Thornton Wilder.

Graduate Centre for Study of Drama
1984 studio season. Performances at
8 p.m.

Tickets \$3, students and senior citizens
\$2.

Information, 978-8668.

Scarborough College.

Feb. 9 to 11.

"Hamlet" by Shakespeare.

March 8 to 10.

Two one-act plays directed by students.

March 29 to 31.

"See How They Run" by Philip King.

Productions by students in drama
workshop. TV Studio I. Performances
at 8 p.m.

Information, 284-3126.

Hart House Theatre.

Feb. 22 to 25 and Feb. 29 to March 3.

"The Importance of Being Earnest" by
Oscar Wilde. Final production in
Graduate Centre for Study of Drama
1984 season. Performances at 8 p.m.
Tickets \$7, students and senior citizens
\$3.50.

Information, 978-8668.

La Calandria.

Feb. 28 and March 1 to 3.

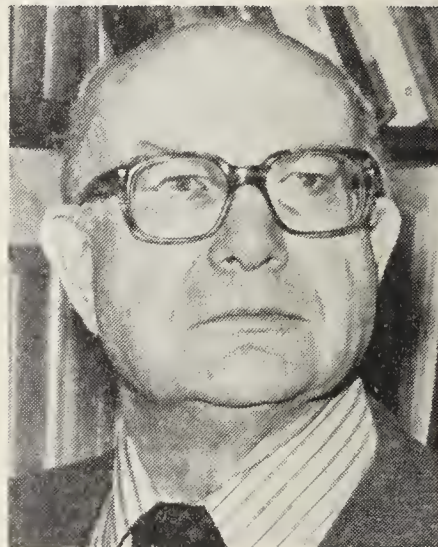
Comedy of the Italian renaissance from

the court of Urbino, produced by Poculi
Ludique Societas. Cody Hall at St.
Paul's Anglican Church, 227 Bloor
St. E. Performances at 7.30 p.m.
Information, 978-5096.

MacMillan Theatre.

March 2, 3, 9 and 10.

"Sir John in Love" by Ralph Vaughan
Williams. Second production by Opera
Division, Faculty of Music, in 1984
season will be Canadian premiere of
opera based on Shakespeare's "The



Who are these famous Torontonians?

The public will be invited to identify these and other Torontonians, past and present, who will be included in "Toronto: The Past 150 Years". This exhibition on the history of the City of Toronto, on view during February and March in the main display area of the Robarts Library, is one of the University's major events in celebration of the city's sesquicentennial.

The photographs will be mounted in the front lobby cases of the Robarts Library along with entry forms for the Photo Contest, contest rules and list of prizes. The grand prize, to be awarded by draw, will be an invitation to accompany by boat the tall ships as they compete in a race from Toronto to Rochester in July 1984.

The exhibition is being organized and sponsored by the Community Relations Office with assistance from U of T Archives and the Toronto Historical Board. For more information, contact the Community Relations Office, 978-6564.

Merry Wives of Windsor''. Please note change of dates. Performances at 8 p.m.
Tickets \$8, students and senior citizens \$5.
Information, 978-3744.

MISCELLANY

YAA Zooski.
Saturday, Jan. 28.
Young Alumni Association day of cross-country skiing at the Metro Zoo. Meet at Kennedy subway station (bus number 86), group will leave station at 9 a.m. Instruction and ski rentals available. Other events planned include financial planning seminars and volleyball, details in future issues of *The Graduate* and YAA mailings.
Information: Department of Alumni Affairs, 978-2366.

Hockey.
Friday, Feb. 3.
Blues vs Queen's.
Tuesday, Feb. 7.
Blues vs McMaster.
Thursday, Feb. 9 and Friday, Feb. 10.
Blues vs Concordia, exhibition games. Varsity Arena. 7.30 p.m.
Tickets \$4, students \$3, special group rates available.
Other intercollegiate schedules include women's ice hockey, men's and women's basketball and swimming and diving.
Information and ticket prices: Department of Athletics & Recreation, 978-4112.

Woodsworth College Tenth Anniversary Dinner.
February.
Details to be confirmed; invitations will be mailed.
Information, 978-5340.

U.C. Theatre Evening.
Thursday, March 1.
Performance of "The Importance of Being Earnest" at Hart House Theatre will be preceded by buffet supper in Croft Chapter House at 5.30 p.m. and informal discussion with faculty members and Ronald Bryden, director of the play.
Tickets \$20 per person, limited number available.
Information: Alumni Office, University College, 978-6930.

Book Sale.
Spring 1984.
Woodsworth College needs all kinds of books, hard or soft cover, for tenth anniversary sale; please bring to the college, 119 St. George St.
Information, 978-4197.

THE GRADUATE
TEST NO. 24

THE WINNER OF THE Graduate Test No. 22 in the Sept./Oct. issue was E.R. Clark of the Town of Mount Royal, Quebec. A copy of *Karsh: A Fifty-Year Retrospective* has been sent to him. There were 371 entries.

The U of T Press has generously provided, as the prize for Test No. 24, *The Mystic North: Symbolist Painting in Northern Europe and North America, 1890-1940* by Roald Nasgaard, chief curator of the Art Gallery of Ontario. Northern symbolist painting throughout its two phases, the first centred in Europe 1890-1910 and the second from about 1910 to 1940 in Canada and the United States, is presented in the work of 31 artists including Munch, Mondrian, O'Keeffe, Hartley and the Group of Seven.

Entries must be post-marked on or before Feb. 29. The solution will be in the next issue; the winner in May/June.

Address entries to: The Graduate Test, Department of Information Services, University of Toronto, Toronto, M5S 1A1. And please don't forget to include your name and address.

Solution to The Graduate Test No. 23

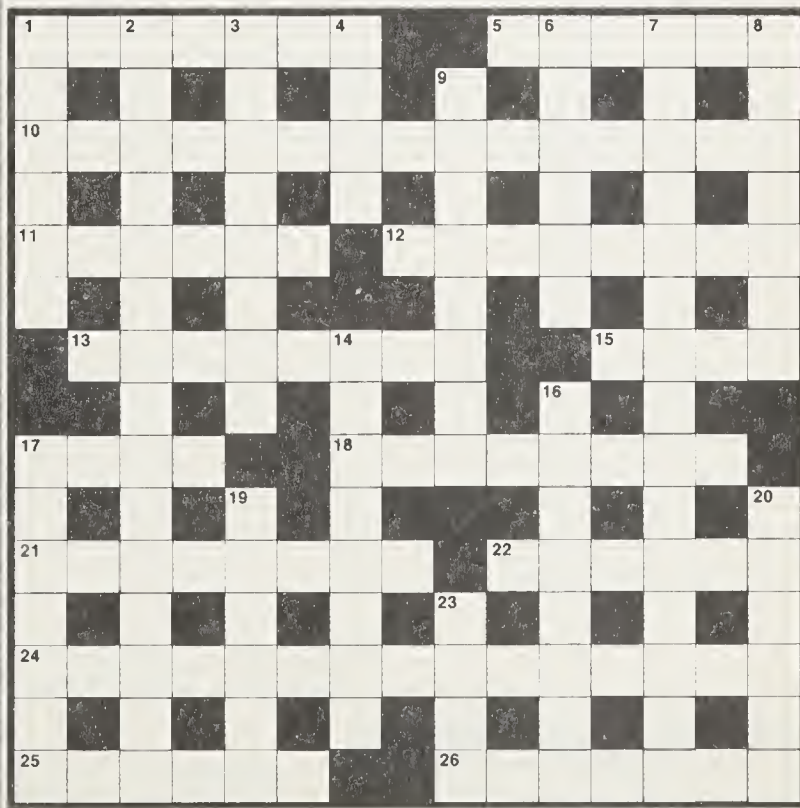
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ACROSS

1. Forbid ruler from taking care of money (7)
5. Longs for many superlative reviews (6)
10. Becoming feeble, corny gift is found in collection plate (7,2,6)
11. Dolly's unusual insurance company (6)
12. Give information of French writer (8)
13. Imitated a southern bird; dead bit of duck (8)
15. Foreigner loses a right (4)
17. Price: company's top leader (4)
18. Money to back the Ex found in hot stuff (8)
21. A very large number warble with one on (8)
22. A place to view anemic disorder (6)
24. Whispered in wild confusion, "It'll improve the view" (10,5)
25. Examines the books for gold — it's after a bit of dust (6)
26. Neat hospital worker (7)

DOWN

1. Talk aimlessly about shot in the hay (6)
2. On salary, sergeant? (15)
3. The ungodly in Castro's? (8)
4. Gun to point at the exit? (4)
6. Little religious chips are kept as souvenirs (6)
7. State with Indian for each plant (8,7)
8. Naughty boys each point to source of food (7)
9. One who goes beyond the limits of protective covering (8)
14. Of the crust, pick-me-up, etc. put out on top (8)
16. Wrote critical article about clergyman that is married (8)
17. Flower in Carolina: pet with a Western degree (7)
19. Don't win in court: put away (6)
20. To go by plane, tune in impartially . . . (6)
23. . . . to some musical solo too (4)



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Woodland Indian Artist

Benjamin Chee Chee

Alumni Media is pleased to present 9 reproductions of works by the late Benjamin Chee Chee. These are the only reproductions authorized by the artist's estate.



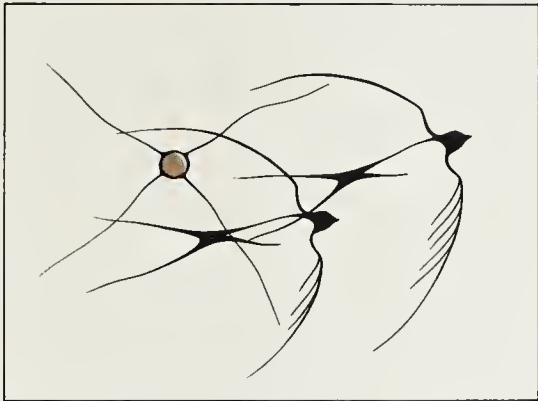
A Friends

A mainly self-taught artist, Chee Chee was a prominent member of the second generation of woodland Indian painters.

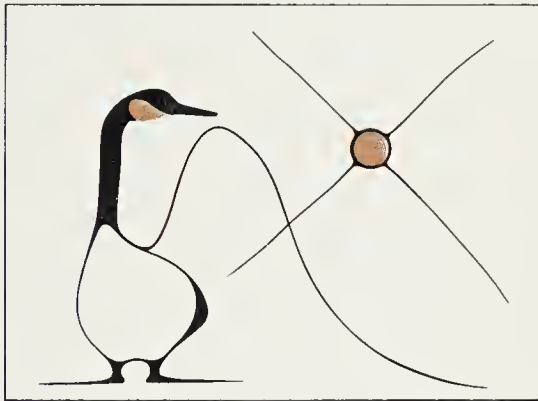
Unlike many of his contemporaries who employed direct and "primitive" means, Chee Chee's work was influenced by modern abstraction. His style reduced line and image in keeping with international modern art.

At the age of 32, at the height of his success, Chee Chee died tragically by suicide.

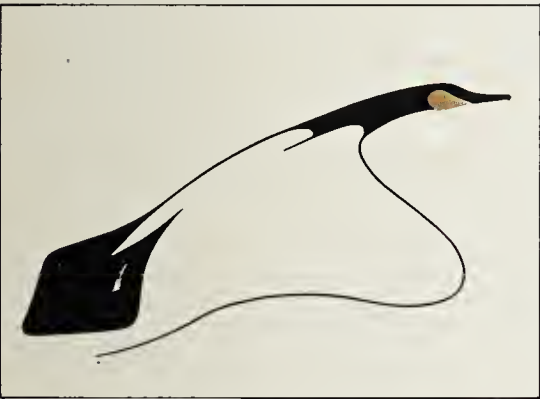
These reproductions are printed on high quality, textured stock and measure 48 cm x 61 cm (19"x24").



B Swallows



C Good Morning



D Proud Male



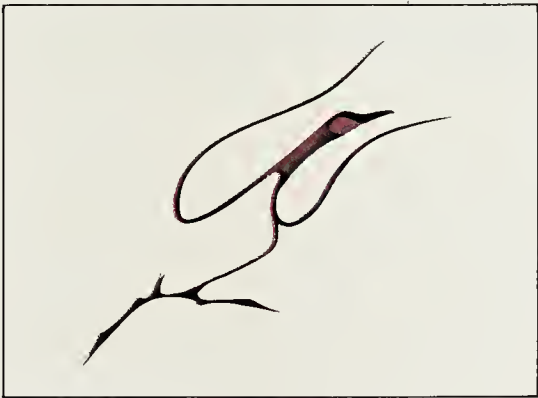
E Mother & Child



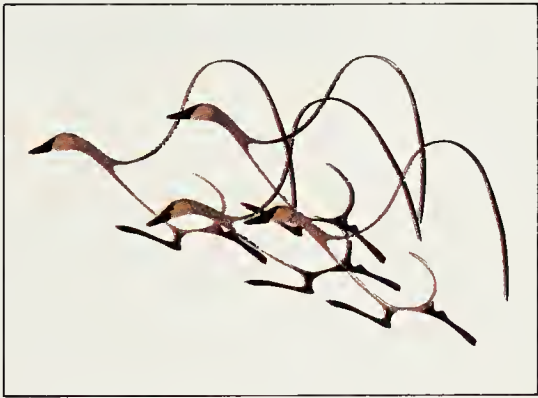
F Sun Bird



G Spring Flight



H Wait For Me



I Autumn Flight

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